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Military Operations in Built-Up Areas: Essays on Some Past, Present, and Future Aspects

Lilita I. Dzirkals, Konrad Kellen and Horst Mendershausen

A report prepared for
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY

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An effective defense of the cities of Western Europe could be critical in the defense of the NATO alliance. But present inclinations of European governments are in the direction of avoiding city fighting entirely. One of the essays in this report sketches six urban battles of the recent past. A second essay examines the Soviet style of urban fighting as revealed by Soviet memoirs and other literature. A third reveals a spectrum of European attitudes toward preparedness for urban defense, as gleaned by the author from personal conversations with civilian and military officials in several countries. A final essay, adopting the premise that urban defense could prove useful, suggests that organized, common-sense preparations would go further than technological innovation -- both in buttressing the actual defense of cities and in preserving deterrence. (BK)

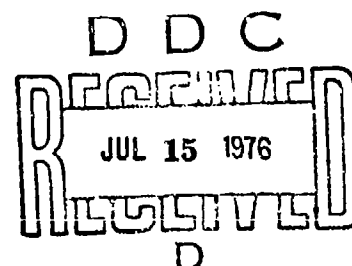
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Lilita I. Dzirkals, Konrad Kellen and Horst Mendershausen



A report prepared for
DEFENSE ADVANCED RESEARCH PROJECTS AGENCY



PREFACE

This report is a product of continuing Rand research on military operations in built-up areas (MOBA), sponsored by the Defense Advanced Research Projects Agency. It focuses on certain problems associated with military operations in urban centers and adjoining areas in Western Europe. It does not offer a comprehensive treatment of the many ramifications of this complex subject.

Because Western Europe is becoming increasingly urbanized, the capability to operate effectively in built-up areas is a growing necessity for defending military forces. Built-up areas, whether metropolitan complexes or cities of various sizes, could play an important role in delaying an enemy advance, in preventing him from consolidating his gains, or even in dissuading him from entering certain areas.

Military observers disagree on the role of cities in the defense of Western Europe. Some argue that the natural channeling of an enemy advance into built-up areas--because of the existence there of good roads, because of supply requirements, and because of the psychological impact of seizing population centers--is desirable, especially if defending forces develop an effective capability to fight in urban areas. As fighting through built-up areas is costly and slow, the overall army advance will be delayed. The authors point out, however, that how to keep the fighting *out* of cities appears to be a primary concern of West European governments. The issue is thus not simply a matter of learning the right tactics and providing the proper equipment. More seriously, it is a matter of military and political constraints. These constraints are in turn based upon historical perceptions of battles for and within cities and on current perceptions of those in whose cities any fighting would take place.

These and other fundamental issues of MOBA are addressed in the four separate essays that form the body of this report.

SUMMARY

Military operations in built-up areas (MOBA) go beyond urban warfare in that they include more territory, literally and conceptually. The term refers to all types of war fighting not only in central cities but also in the many suburban and exurban areas between cities that are springing up. The four essays in this report examine several aspects of this type of warfare in an attempt to throw light on what shape such warfare might take, where and why it might take place, what the attitudes of Soviet and West European officials might be to such an eventuality, and what the requirements might be, in a general way, to conduct MOBA with some promise of success.

The report begins with six sketches by Konrad Kellen of urban warfare that took place in the recent past. Five of the sketches deal with urban battles that occurred in World War II, and the sixth with the occupation of Prague by the Red Army in 1968 in the wake of the Czechoslovak rebellion. The military actions described range widely as to duration, with the battle of Cherbourg having taken only a week, whereas the battle for Leningrad--more accurately a siege punctuated by much fighting--lasted for almost two years. The sketches describe the various types of military encounters that took place, with special attention to what actions eventually turned the tide of battle. Among the findings are that improvisation and leadership on the part of combat commanders can play a decisive role, and the morale and motivation on the part of the civilian population that is pressed into service and must endure great sacrifices and hardships are of critical importance.

This essay also discusses Hitler's "Breakwater Doctrine" gleaned from Wehrmacht diaries. Basing himself primarily on the experiences of the great retreat from the Soviet Union after Stalingrad, Hitler saw the cities in the path of the enemy's advance as effective resistance points, particularly if local commanders were ordered to fight to the end. Wehrmacht generals also quoted in the diary dispute him, however. They point out that orders to fight to the end were generally not followed, and that actually some strategic disadvantages were

incurred by the stubborn defense of some cities. In any event, the rout of the German main forces and the collapse of the Nazi regime made the last-ditch defense of German cities a suicidal enterprise.

The second essay, by Lilita I. Dzirkals, on Soviet tactics in Europe, 1944-1945, presents partisan Soviet assessments of the experiences of the Soviet forces in conquering European cities during their offensives in late 1944 and early 1945. This study relies solely on Soviet sources, primarily the memoirs of Soviet military commanders. It reveals the considerable interest of Soviet military men in the conditions, failures, and successes of warfare in this environment, and their evaluation of armor, infantry, engineers, and other military elements in this frame. The Soviets found assault detachments, formed mainly of foot soldiers and structured for city fighting, of considerable utility and discovered that small numbers of tanks were helpful in routing the defenders, while massive armor was usually not. Similarly, they arrived at discriminating judgments of artillery and communications in urban warfare. Given the often reiterated Soviet view that the military lessons of World War II are valid for the present, it is likely that future Soviet combat tactics in urban areas will follow ideas distilled from World War II experience. While the Soviet army is not likely to *seek* such combat any more eagerly than Western military forces do, it takes city fighting capacities seriously.

The third essay surveys the views of military officers and civilian officials in several Western European countries (in and out of NATO) on the subject of MOBA. This study, undertaken by Horst Mendershausen in the spring of 1975 and based mainly on personal conversations in Europe, suggests that, on the whole, European officials are reluctant to plan for or even to think about military operations in built-up areas.

The study examines the reasons and rationalizations of these officials as to why a future war should not, or could not, be fought in built-up areas and points out marginal growth points for realistic approaches to the unpleasant eventuality that the fighting will not detour the population centers. Attitudes in several NATO countries appear to contrast with those in nonallied Switzerland. The study considers ways in which American military thought and example may influence

European thinking on this matter. While a great U.S. campaign for MOBA preparations in NATO would seem unpromising, an expression of greater U.S. interest in the matter might be helpful. Moreover, the interest and experience of the Berlin Brigade in MOBA could serve as a growth point for the development of U.S. and allied army capacities.

The final part of the report, by Konrad Kellen, places MOBA in the context of limited war and looks at future possible urban operations in some detail. It concludes that planning and preparations would appear to be more important to an effective city defense than new and original concepts. This segment of the report tries to anticipate problems that may have to be faced with regard to the civilian population, and arrives at some conclusions as to what will be needed to keep the vital machineries of public administration, general services, and, above all, public information functioning.

Also addressed is the question as to whether special units with highly sophisticated weapons and training, or local populations with simpler weapons and less proficiency, would be preferable. The conclusion is that in addition to competent military forces the local population will in all likelihood have to play a vital part, and that certain preparations probably have to be made in advance if command and control is to be maintained and the city population is to be able to marshal its intrinsic defense capabilities.

Thus, the essays presented here deal with selected aspects of past military operations in built-up areas, present-day approaches to such operations, and considerations relevant to the future. They also point to several topics on which further research would be useful.

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I. INTRODUCTION

This report presents four separate papers on the subject of Military Operations in Built-up Areas (MOBA). The papers complement each other, in that the first two, *Sketches of Past MOBA Situations*, by Konrad Kellen, and *Soviet Tactics in Europe 1944-1945*, by Lilita I. Dzirkals, look at some past experiences and distill a few lessons out of those experiences; the third, *West European Attitudes and Planning Today*, by Horst Mendershausen, reviews what Europeans in the present think and do about various aspects and prospects of such operations; and the fourth, *Inventory of Considerations for the Future*, again by Konrad Kellen, looks into the future, trying to present food for thought and some suggestions for planners in the area of MOBA.

In 1972, the U.S. Army Infantry School published a study of combat in built-up areas,^{*} which may serve as a background for the "papers" presented here. The purpose of that study was "to validate and expand existing combat-in-cities doctrine by identifying voids and weaknesses." It considered urban conflict in Europe and the Pacific during World War II, post-war European uprisings, the battle for Seoul in the Korean War, and the battles for Saigon and Hue in the Vietnam War, and it proposed to update and expand U.S. Army doctrine, as stated in the last field manual.[†] The Army study also touched on possible features of future MOBA in Europe.

In the main, the Army study focused on American Army doctrine for MOBA, with some detailed consideration of such matters as weapons, tactics, training, and medical problems, and on Red Army doctrine as revealed in a 1971 Soviet publication on city combat at the battalion level. In the present papers neither current American nor Soviet Army

^{*}United States Army Infantry School, Brigade and Battalion Operations Department, Tactics Group, Attack Committee, *Combat in Cities Report, Vols. I, II, and III*, Fort Benning, Georgia, 1972. This publication also offers an extensive bibliography on city fighting.

[†]*Combat in Fortified and Built-up Areas*, Field Manual FM 31-50, Department of the Army, Washington, D.C., 1964.

doctrine are dealt with to any significant extent. They focus rather on historical experience--on MOBA as a general problem and as a problem for European strategists in particular. In that way the papers supplement the Army study.

While the Army study pointed to a continuing need for critical review, and further development of U.S. doctrine in this field, it arrived at a conclusion quite relevant to the discussion in this report. It concluded that "current potential enemy avenues of approach into Central Europe dictate his having to conduct combat in cities," whether or not he would like to avoid it. This conclusion supports the present authors' view that MOBA is important for war planning in Europe.

The following essays attempt to define problems and opportunities that may be part of a struggle on land in the heavily urbanized areas of Central Europe. They do so with the help of case studies of past experience, an evaluation of Soviet experience, an examination of current military and political thinking in Europe on the subject of MOBA, and a broad review as to what factors will have to be considered to conduct such operations successfully should they become necessary.

1. *Sketches of Past MOBA Situations* demonstrates, on the basis of six case studies, how great an arena for improvisation city fighting has been in the past and is likely to remain, and how some bold and imaginative leadership and good command and control can even turn capabilities not obviously suited for MOBA (such as armor) into effective MOBA weapons if a certain orchestration with other weapons and special infantry tactics is achieved. The historical sketches also show how certain not strictly military factors need be considered, if the enemy is to be frustrated in a lengthy siege. Among such factors are communications and public administration, which must continue to function if the enemy is to be denied a city. The sketches also deal with the behavior of city populations during city fighting, so as to enable MOBA planners to take probable popular actions and reactions into consideration.

2. *Soviet Tactics in Europe, 1944-1945*, presents postwar Soviet assessments of the tactics employed by Soviet forces to take major European cities during their offensives in late 1944 and 1945. It relies solely on Soviet sources, primarily the memoirs of Soviet

military commanders. Given the often reiterated Soviet view that the military lessons of World War II are valid for the present, it is likely that future Soviet combat tactics in urban areas would follow principles similar to those distilled from World War II experience.

3. *Western European Attitudes and Planning Today* presents the results of a survey of MOBA preparations in some Western European countries, undertaken by the author in the spring of 1975, and based on conversations he held with a number of high-ranking military men and civilian strategists. The findings suggest that on the whole, the European Allies in the North Atlantic Treaty Organization (NATO) are reluctant to plan for or even think about MOBA, though they do not deny that such operations may come into play, and that good defenses against enemy forces invading European cities might not only be an important link in NATO defense but also a deterrent against enemy ventures westward. As views and attitudes of high-ranking men in a defense community affect capabilities and plans, the paper will acquaint the reader with some of the obstacles now standing in the way of creating and exercising adequate city fighting capabilities.

4. The fourth essay, *An Inventory of Considerations for the Future*, tries to place possible city operations in the broader perspective of a possible future war in which city destroying capabilities from outside the cities, nuclear or not, used or unused, will at least be a powerful strategic factor merely by existing in the respective enemies' arsenals. The paper then looks at military operations such as might actually occur in the future and concludes that actual planning and preparations would appear to be more important to an effective city defense than new and original concepts. In this respect, the paper tends to agree not only with the conclusions reached in the U.S. Army study described above, but also with Soviet conclusions.

This, then, appears to be the crux of the matter: Effective military operations in a possible westward drive by Warsaw Pact (WP) forces will require that the many still good lessons of the past be learned well; that commanders be flexible and imaginative; and that preparations be extensive and tangible. It may also require a change of attitude among some of the European allies and, last but not least, an

operationally effective understanding that the nonmilitary aspects of MOBA--i.e., everything pertaining to the civilian populations in the affected areas--will be of great importance.

II. SKETCHES OF PAST MOBA SITUATIONS

1. INTRODUCTION TO THE CASE STUDIES

This section contains five sketches from World War II and one from the post-war period. The former contain details of American and Soviet battles in French and German cities, the latter deals with the Soviet occupation of Czechoslovakia in 1968. The section also contains some excerpts from the World War II Diaries of the Wehrmacht, detailing Hitler's personal view of city fighting.

Of the hundreds of military operations in built-up areas (MOBA) in the last 40 years, this paper selects six for discussion in the following order: Leningrad, 1941-1943; Prague, 1968; Cherbourg, 1944; Berlin, 1945; Aachen, 1944; Sevastopol, 1942. The author selected these particular examples of MOBA on the grounds that they appear to provide one example each of the most common basic MOBA situations: a long siege; a "bloodless" capture; a city surrounded and cut off; a capital "fighting to the last man"; a city of medium importance hampering an advance on a broad front; the reduction of a city fortress by an unusually heavy concentration of firepower. The nonchronological sequence is the result of the author's opinion that the various lessons flowing from these case studies seemed to emerge best in this order.

Increased firepower and, in particular, nuclear weapons have given both the NATO and the Warsaw Pact (WP) forces the capability to eradicate entire cities at will. Although future MOBA may consequently differ from those in the past, much can still be learned from past operations because in a variety of conceivable encounters such firepower would not come into play. Instead, under an umbrella of unprecedented but unused weapons, military operations quite similar to those in the past may become both a necessity and an opportunity in a WP offensive against NATO.

Overall, the historical sketches show that city fighting is more often than not an arena for imaginative improvisation, and they provide many clues to what successful city fighting might require and might have to avoid. Small changes in tactics can make a big difference. For

example, when Soviet tanks began to fight in the streets of Berlin, they suffered heavy losses from snipers and small groups of soldiers hidden in cellars or ruins, using antitank weapons. A quick decision by the local commander to surround the tanks with scouts that would flush resisting Nazis from such locations brought immediate success: Tank losses fell to near zero, and the tanks' mobility and firepower then came into full play.*

2. THE SIEGE OF LENINGRAD, 1941 to 1943

Even though actual military combat between the Red Army and the Wehrmacht did not take place in Leningrad in World War II, except on the outskirts and in the form of aerial and artillery bombardment, the case of Leningrad is included because it permits us to see the differences between actual war fighting in an urban area, and a long siege. Both may of course become reality in a NATO/WP conflict. In an urban area, the *principal difference* between war fighting and holding out against a siege is that the former requires primarily military forces, experience, leadership, and supplies; the latter requires in addition an administrative apparatus that continues to function, and a population that resists, or is made to resist, the temptation to surrender to the enemy. The purpose of this case study is not to chronicle the siege of Leningrad but to cull from the material some of the factors that should be considered by those who may be charged with the planning and preparation of NATO urban areas to withstand possible sieges in case of hostilities. This may be all the more important as planners tend to be offense- rather than defense-oriented.

The points adduced here are taken from two books on the siege of Leningrad: *The Nine Hundred Days*, by Harrison Salisbury,[†] and *The Siege of Leningrad*, by Leon Gouré.[‡] Both writers are fluent in Russian. They examined Soviet documents after the war and extensively interviewed

* See Section III under "Use of Forces."

† Harper & Row, New York, 1969.

‡ McGraw-Hill, New York, 1964.

Soviet citizens. Salisbury was for many years the *New York Times* Moscow correspondent; Gouré was for two decades a senior analyst at The Rand Corporation.

Reality vs. Expectations

From what the authors learned, the actual performance of the citizens of Leningrad far surpassed their own expectations and those of the most zealous leaders in the Party. Before the thrust against Moscow had been brought to a halt, there was little hope that Leningrad could hold out. After that tide had been stemmed, a mild form of optimism set in, but nobody apparently expected that Leningrad would be subjected to almost three years of siege, and withstand it. A propaganda officer reported after the war that on the 77th day of the Leningrad siege he and some friends toasted with a bottle of Vodka "we had miraculously been able to put our hands on," the daily bulletin they hoped to issue on the 100th day, without much confidence that they would ever see that day. Instead, they eventually saw the 900th day before the siege was lifted.

What was the impetus behind this remarkable accomplishment? Gouré thinks that a combination of local pride, faith in the leadership, resentment of the Germans, a determination that so much suffering should not have been in vain, and a strong desire not to let down the heroic Red Army soldiers elsewhere combined to make the resistance possible.

Leadership

Both authors agree that the leadership, though of course very severely strained, did not break down, for two reasons: The people on the whole continued to accept it, and the actual administrative apparatus remained in some kind of working order. Though rations were incredibly short and people had to stand in line for hours in the icy wind, often in vain, some form of food distribution remained on which people could rely.

Also, the measures with which the black market was kept under control were extremely harsh: People were shot on the spot for possession of extra food items or ration cards if these were discovered at one of

the many check points. Even so, the city soon was reduced almost entirely to the barter market. And as in all barter markets, cigarettes and alcohol commanded high premiums.

Similarly, transportation, i.e., tramways, continued to operate after a fashion, electricity continued to be available, some heating fuel remained available, and people continued to work in the great industrial combine, the Kirov works, supplying not only the required ammunition for the Leningrad front but even for other fronts.

Breakdowns

Apparently the services that broke down first were those connected with the death of citizens. The complicated rules of reporting a death, providing for the burial, sealing the apartment of the deceased and so on, were not observed from early in the siege, and the Communist Party did not insist on it. Instead, corpses were stripped of their warm clothing and valuables and of course food, and left in the snow. In all, about a million people perished in Leningrad during the siege.

There was a far-reaching breakdown of public safety, and people were especially frightened by frequent rumors and reports of cannibalism. People died from the slightest illness because of malnutrition and because the medical services had largely broken down. But they somehow compensated for these breakdowns with a considerable degree of voluntarism and collective effort. In fact, according to the authors, people were afraid that death might come sooner if they were inactive or staying alone in their apartments, and therefore they participated in whatever common endeavors were at hand.

The Cultural Element

The authors agree that a doubt might be raised as to whether western people would be able to endure similar hardships. (The people themselves seemed to feel that nobody else would be able to do what they did, if only because of external circumstances. A woman drawing water with a pail from a hole cut in the ice of the street, said to her helpers: "We're lucky not to be the Americans, who would have to carry the pail up seventy stories. They would be finished right away.")

However, that is an empty question, as even the Russians did not expect of themselves that they could endure the siege.

The Political Aspects

The physical necessities and, considering the situation, the miraculous management, were not the only problems plaguing the city government and the leaders in Moscow, however. The Germans, having missed taking the city at an opportune moment in the beginning of the war, made it very tempting for the inhabitants of Leningrad to give up the struggle and surrender, either individually or collectively, turning over the city. This possibility was all the more real as there was a sizable German ethnic group among the population. Gouré and Salisbury report on the basis of scores of interviews with survivors of the siege after the war that the "defeatist" mood in Leningrad was widespread. But people looked to the other fellow rather than to themselves to take steps. Perhaps surprisingly, the authors report that the men looked to the women to make the first serious move. (One reason for this may be that in totalitarian regimes, men are generally more afraid of the authorities, and indeed have more to fear of them, than women.) But the women complied with the mode of life that had descended on the city, even though in the early stages quite a few citizens, it appears, felt that German occupation was not more fearful, in fact less so, than the German siege. But here as elsewhere, the increasing awareness of German atrocities acted as a deterrent.

Of major importance in maintaining that minimum of morale the defenders required to live through the hardships and not give in to the temptation of surrender, was the relatively good news from the other parts of the front. After the onslaught on Moscow had been stopped in the war's first winter, the strategic picture kept developing slowly but surely in favor of the Soviet Union, and the various propaganda and information services were kept running, so that the inhabitants of Leningrad were kept informed. It may be noteworthy, in this connection, that by and large the Soviet information machine--quite wisely--pretty much stuck to the facts and did not engage in pie-in-the-sky type of propaganda.

The Lifeline

The single condition that saved the city was the opening of the ice route for supplies across the frozen Lake Ladoga. This shows that part of NATO's preparations for MOBA should be strategic plans to break such encirclements. To be sure, the need to break out would be less in a short war.

3. THE OCCUPATION OF PRAGUE, 1968

The occupation of Prague, part of the Soviet invasion of Czechoslovakia in 1968, was not an actual contest of military forces, i.e., an urban military operation in the strict sense. The Soviet forces were not opposed when they entered the city with considerable numbers of men and arms, and they soon established a stranglehold on the government. The reason this event is included in MOBA case studies is that it can nevertheless teach us several important lessons about the occupation of a large city and about resistance* by its citizens. In particular, lessons might be drawn for a replication of such resistance after an invasion has taken place, in the event, e.g., that WP forces enter a city and leave it behind on some westward sweep.

One interesting aspect of the events in Prague was the curious intrepidity of individual people. Persons who might be scared at sight of a mouse appeared to show no fear in the face of a tank or a group of soldiers. (All those old enough will remember also the famous picture of young men throwing stones at Soviet tanks in East Berlin during the upheavals of 1956.) In Prague, after the Soviet forces had entered the city, the Soviet occupier encountered resistance from the President on down. President Svoboda apparently refused to constitute a new government, although the Soviets greatly wanted him to do so. Shopkeepers and farmers refused to supply the invading forces with food--a painful experience for the Soviets and a point easily underestimated by the U.S. Army, which is accustomed to bringing its own supplies with it wherever it goes, whereas the Soviet forces tend to live off the land

* Throughout this discussion of the occupation of Prague, "resistance" is meant to be essentially nonviolent measures taken by the civilian population, not military resistance.

when outside their own borders, and are seriously hampered by noncooperation in the countryside.

Observers have reported that various forms of civil resistance in Prague against the Red occupier worked quite well, even though such resistance was often improvised and in any event not formally prepared. The same observers report, however, that some of the reportedly more effective means of resisting--for example, the taking down of almost all street signs and house numbers in Prague--came rather late.

Particularly effective was the continued availability of domestic and antioccupation media, such as newspapers and radio broadcasts. In addition to being able to give general instructions to the population, Radio Prague was able to give precise instructions about particular matters, such as a general strike. The appeal to remove street signs and house numbers was also promulgated by radio.* At the same time, mainly thanks to good communications maintained under great difficulties, a train full of Soviet jamming equipment was intercepted and sidetracked for some time. And because of resistance on various levels of the bureaucracy, some telex lines remained open despite Soviet efforts to close all of them down.

Some Czech party and government bodies continued to meet in occupied Prague quite overtly. The Soviets apparently had no objections to that. These bodies then used their getting together to formulate some resistance policy on the side.

Finally, there were some acts of passive resistance that according to witnesses were very effective but required extraordinary courage. One of them was the refusal on the part of the Czechoslovak news agency, CTK, to promulgate a written Soviet "appeal to the citizens of Czechoslovakia" on the first day of the invasion, and perhaps most important and courageous of all was the refusal on the part of the government to come forward with a slate of collaborators. Naturally, all resistance

* Radios apparently played an equally important part in Algeria in 1961 in spreading the message of opposition to the putsch of the right-wing generals. The defeat of those generals by forces loyal to De Gaulle was later called often "La victoire des Transistors," Philip Windsor, *Czechoslovakia, 1968*, Chatto & Windus, London 1969, p. 120.

activity could not avail the Czechs anything in the long run because Soviet power was overwhelming and the Czechs had no allies.

4. CHERBOURG, 1944

Soon after the D-Day invasion (June 6, 1944), American troops cut off the Cotentin Peninsula reaching into the Atlantic, with the harbor of Cherbourg at its tip. The Allies were most anxious to capture this harbor quickly and intact in order to use its facilities for the re-supply of their advancing armies. Cherbourg was basically in an untenable position as the defenders could not hope to reinforce it either by sea or land. Nevertheless it held out for some time.

The capture of Cherbourg became even more urgent than originally contemplated when a storm struck on 19 June 1944, curtailing operations over the beach, especially at Omaha Beach. On 21 June, General Collins stated that the Cherbourg attack was the major effort of the American Army.* On 18 June, General Montgomery had ordered the initial attack on Caen, which he regarded as "really the way to Cherbourg."[†]

After the city had been invested more than a week, it was attacked by 10 squadrons of RAF fighter bombers and 12 AF groups, plus the whole (11 groups) of the IX bomber command.[‡] There also were subsequent attacks. These strikes aimed at neutralizing strong points, among other things. They succeeded in this to some extent and according to one observer, also "demoralized large bodies of troops." But "strong resistance was encountered from many strong points that survived the attack" when Allied ground forces finally went in.^{**}

In the days that followed the air assault, part of the city had been shelled heavily from the sea and the ground, and apparently the naval gunfire contributed substantially to its fall. But even after

*Gordan A. Harrison, *United States Army in World War II, European Theater of Operations, Cross-Channel Attack*, Office of the Chief of Military History, Department of the Army, Washington, D.C., 1951, p. 426.

[†]Ibid., p. 443.

[‡]Ibid., p. 428.

^{**}Albert Norman, *Operation Overload*, The Military Service Company, Harrisburg, Pennsylvania, 1952, p. 175.

the fall, defending garrisons held out for another 3 days before all fighting ceased on June 29, 1944--about three weeks after it had begun. During these last three days, the defenders were able to destroy many of the giant cranes in the harbor which the Allies were anxious to capture and use for the campaign in Western Europe.* General Eisenhower confirms that the destruction of these cranes, and also the planting of mines, considerably slowed down the reconstruction of this valuable port.†

The selective destruction practiced at Cherbourg was apparently very effective, and the length and importance of the delay of allied forces created by the resistance of the Cherbourg garrison was considerable. Harrison reports that

- o Col. Alvin G. Viney, who prepared the original engineering plan for port rehabilitation, wrote: "The demolition of the port of Cherbourg is a masterful job, beyond a doubt the best-planned demolition in history."
- o For the demolition work, Hitler awarded the Knight's Cross to Admiral Hennecke, calling the job "a feat unprecedented in the annals of coastal defense."
- o Allied planning estimates based on experience at Naples led to the expectation that Cherbourg could begin operations within three days of its capture; actually it took almost three weeks until initial operations could begin, and it was months before Cherbourg could handle cargo in quantity.‡

One unusual feature of the investment of Cherbourg was the heavy psychological warfare used against the German defenders in the city. This effort was greatly helped by a small but steady stream of defectors from the city who gave the allies the information which enabled them to

* *Lagebesprechungen im Fuehrerhauptquartier*, Deutscher Taschenbuchverlag, 1962, Muenchen 1962, p. 253.

† Dwight D. Eisenhower, *Cruade in Europe*, Doubleday, New York, 1958, p. 261.

‡ Harrison, op. cit., pp. 441-442.

make their broadcasts and leaflets very accurate and up-to-date--a requirement for effective psywar. A major psychological warfare coup was achieved when a German sergeant, in accordance with a standing promise that prisoners who changed their minds could return to the city, was actually sent back with cigarettes and food (much to the consternation of the commanding U.S. general in the area). After the surrender, interrogations revealed that the psywar operations had made a good contribution to the surrender.*

Comment. It is realized that there are many nonanalogous features between Cherbourg and what is likely to be the situation of invested cities in Central Europe in a possible NATO/WP conflict. Still, there are some lessons.

1. Despite heavy bombardment, strong points in the city were intact and operative when the attacking troops moved in.
2. Despite the demoralization of large bodies of troops, resistance was effective.
3. Without heavy bombardment from the air, and also the sea, the taking of the city clearly would have been more difficult, costly, and time consuming.
4. The defenders were able, because of their effective resistance, to engage in *selective destruction* of the assets that the invaders wanted, without having to resort to a scorched earth policy for which they probably had neither the will nor the capability. *This indicates that MOBA planners probably should set up an inventory of what NATO forces might want to destroy in cities and towns they may have to surrender.*
5. Destruction of assets coveted by an advancing enemy is possible only if his advance is sufficiently slowed. Thus a combined "slow-down and selective destruction" plan might be drawn up for various cities.
6. Although in military circles there has never been agreement on the actual effect of psywar after a military success, this

*From the author's personal recollections.

writer, who witnessed the events in Cherbourg and interviewed prisoners afterward, believes that psywar was quite effective in Cherbourg. This indicates that *defensive* psywar, be it in the form of effective counterpropaganda, be it merely in the form of mechanical devices such as radio jammers, deserves to be considered as part of overall MOBA planning.

5. BERLIN, 1945

Although the Russian capture of Berlin at the end of World War II occurred at a time when the issue was no longer in doubt and Berlin's defense clearly a quixotic undertaking, military operations in that city were very extensive. Heavy fighting lasted a surprisingly long time considering the hopeless situation of the defenders--from April 22 until May 4, 1945.

Detailed descriptions of the fighting for and in Berlin are in the *Diary of the Supreme Command of the Wehrmacht*.^{*} Even though the description of the battles is propagandistic in tone, we can nevertheless derive some true picture of the events.

The Diary tells us on April 22 that "to the east and north the enemy pushed close to the capital." The entry on the following day reports that "the Fuehrer has assumed command over Berlin's defense" and that "side by side with the regular troops and the Volksturm (older men drafted at the last moment), the civil population has entered the fight." We are told that "city officials and party members have taken up positions at street intersections with bazookas, carbines, and sten guns to oppose the enemy whenever he appears." A day later, according to the Diary, the Red Army entered some outlying district against resistance.

On 25 April, the Diary reports that "there is heavy fighting for every inch of ground in the Battle of Berlin." The Diary tells us specifically just how far the Red Army penetrated into Berlin in the previous 48 hours, and shows that the defenders were surprisingly

^{*} *Kriegstagebuch des Oberkommandos der Wehrmacht 1940-1945*, Bernhard & Graefe, Frankfurt, 1961. See also frequent references to fighting in Berlin in the following essay, p. 26ff.

successful in slowing the Soviet advance. The next day, 26 April, a full four days after the Red Army had begun its initial assault, fighting seems to have been at its most widespread and violent. The Diary names over a dozen points at which heavy fighting was in progress that day. Apparently, the leadership threw all available forces, including the Hitler Youth, into the battle, and inflicted considerable losses on the Red Army, including a number of tanks.

On April 27--if we can trust the Diary--the defenders actually succeeded in pushing the Red Army at least partially out of the center of the city to which it had penetrated. The Diary claims that the defenders "defended every house;" and although it is not clear how much defending they actually did or how much Russian artillery fire into Berlin was coming from outside the city, this visitor to the city shortly after the fighting ended can confirm that very extensive military action had taken place everywhere. A day later, both sides threw new forces into the fray, with the situation admittedly very fluid. By April 30, the defenders had apparently retreated to the "center" of the city, halting the Red Army advance there "in bitter street and house-to-house fighting." Actually, it is clear from the entry that the back of the resistance was broken that day. The next day the Diary speaks of the "heroic defenders, pressing closely around the Fuehrer," being pounded by "heaviest" artillery fire and continuous air attacks. Apparently, the Soviets needed to use such outside elements to subdue Berlin relatively quickly. At the same time, the Diary speaks of efforts to integrate Berlin into a larger defense front. On May 2, Hitler committed suicide, and on May 4, the Diary reported that the fight for the capital had come to an end.

Comment: From the above we see that even where the defenders labor under disastrous political and strategic conditions a city can be a formidable obstacle in the path of the strongest armed force. This was true in Berlin where the Red Army did not have to worry about its flanks or air cover or the pressure of time but could concentrate entirely on the reduction of Berlin.

6. AACHEN, 1944

Compared to Cherbourg, the city of Aachen in the northern Rhineland was not as important a major strategic objective of the Allies, but it was nevertheless of considerable importance to both sides in World War II. In October 1944, the Allies had not yet captured an important German city, so there was considerable propaganda value attached to either taking or denying the city even though it was relatively small, with a pre-war population of 165,000. Original Allied plans had proposed bypassing Aachen, but its capture by force became necessary for the invasion of Germany proper.

As the fighting began, orders to evacuate the civilian population had been issued and countermanded. There was confusion and lack of clear direction concerning that important matter, but fewer than 20,000 civilians remained when the assault began.* Initially the attacking forces were outnumbered by the defenders, who were all regular troops. Softening-up efforts by aerial bombardment and early tank attacks did little to speed the capture of Aachen because of the thick-walled solid construction of many of the buildings.

Aachen put up very strong resistance, and the Germans apparently considered the battle, though lost, very much worthwhile. An official Wehrmacht entry states: "The struggle for Aachen, which lasted several weeks, not only gave the enemy, who was intoxicated with success, a taste of the severity of this war and showed him what he might expect on German soil; it also gained time for the strengthening of our fortifications and the bringing up of fresh troops."†

Before the direct attack on the city the Western Allies had been penetrating the West Wall to the north and south, so that Aachen represented a salient in the front. (This is a situation in which various cities in West Germany might well find themselves in case of a NATO/WP conflict in which such cities may expect to be fully or partially

* Charles B. MacDonald, *U.S. Army in World War II, European Theater of Operations, The Siegfried Line Campaign*, Government Printing Office, Washington, D.C., 1963.

† *Kriegstagebuch des Oberkommandos der Wehrmacht, 1940-1945*, Vol. IV, Bernhard & Graefe, Frankfurt, 1961, p. 406.

bypassed.) On October 2, 1944, the attack on Aachen began. On October 3, the Allies made a loudspeaker appeal to the city to surrender, pointing out that the city was surrounded (which it was then only partially). When the Germans did not answer the appeal, the Allies threw one infantry and one armored division against the city. In the week following the original assault, the German High Command pulled some of their forces out for service elsewhere, but decided at the same time that Aachen was to be defended "to the last man." The Allies, after almost completing an encircling movement around Aachen, with a channel of only about 3000 yards remaining between Aachen and the rear areas, renewed the attack and penetrated into the inner city center on October 10. However, they were pushed out the following day.

Thereafter began the third phase of the battle for Aachen, the first having been the partial encircling movement, the second the initial assault. On October 14, the remaining avenue to the rear was sealed off; reinforcement and supplies could be brought in only by air.

The Wehrmacht Diary^{*} then states that "the defensive fighting in the city deteriorated rapidly because of the strong air attacks, concentric artillery fire, and the difficulties involved in house-to-house fighting." Among the leaders only the veterans were able to function in this type of engagement, and most of these became casualties. The German efforts then were to reopen the corridor into Aachen and to set up a broad defense line that would include Aachen. Both efforts failed. After a partially successful German counterattack on October 15, the Allies were able to make a concentric attack on the inner center. The local commander had ordered that all remaining troops were to be pulled together in that center.

Three days after this Allied push had begun, i.e., on October 18, the German Supreme Commander in the West was advised by the local commander that he only had 1200 men left. The local commander was once again advised to fight to the last man and "to let himself and them be buried in the rubble of the city, if necessary." However, the local commander did not see fit to try this. He surrendered, and the Wehrmacht

^{*} Ibid., Vol. IV, p. 405.

Diary contains the laconic entry on October 20: "Resistance against the enemy's overwhelming superiority faded out." The battle for Aachen lasted one week.

General Eisenhower, in his own book, devotes a paragraph to the battle: "The American First Army, at the end of its brilliant march from the Seine to the German border, almost immediately launched the operations that finally brought the reduction of Aachen, one of the gateways into Germany. The city was stubbornly and fiercely defended, but Collins, with his VII Corps, carried out the attack so skillfully that by October 13 he had surrounded the garrison and entered the city. The enemy was steadily forced back into this final stronghold, a massive building in the center of the city. This was reduced by the *simple expedient* [our italics] of dragging 155-mm Long Tom rifles up to point-blank range--within 200 yards of the building--and methodically blowing the walls to bits. After a few of these shells had pierced the building from end to end, the German commander surrendered on October 21, with the rueful observation: 'When the Americans start using 155s as sniper weapons, it is time to give up.'"^{*}

Comment: Aachen points to the importance of the location of the city in the general strategic picture; ability to resupply with the help of a corridor or from the air, or both; the almost irresistible effect of heavy weapons if used by the attacker; the will to fight. Aachen appears to have been an instance of city defense in which the "delay" payoff was overestimated by the defenders and would probably not have been significant even if the city had held out much longer. Thus Aachen can be contrasted with Cherbourg, where the delay payoff was quite significant. Also, at Aachen the exchange ratio (losses of killed, wounded, and prisoners) favored the attackers.[†]

^{*}Dwight D. Eisenhower, op. cit., p. 312.

[†]Charles B. MacDonald, *U.S. Army in World War II, European Theater of Operations, The Siegfried Line Campaign*, Government Printing Office, Washington, D.C., 1963, pp. 317-318.

7. SEVASTOPOL, 1942*

Military operations in built-up areas can cover the entire range from the more or less bloodless take-over of an open city to the foot-by-foot reduction of a formidable city fortress. An outstanding example of the latter was the capture of the fortress city of Sevastopol in the Crimea by the Germans in World War II.

On June 5, 1942, the defenders were surrounded almost entirely by sizable German ground forces, and air squadrons stood ready to join in the attack. In the evening of that day, the Luftwaffe began operations, and therewith began the twenty-nine day battle against what was then the strongest fortress in the world. The German artillery also began operations on June 5, initially for the purpose of creating an opening for the German infantry to enter the city. Because of heavy losses that had been sustained by the Red Air Force earlier, the Germans had virtual mastery in the air over the entire region. They took advantage of this fact with "continuous attack" or conveyor belt tactics, with up to 2000 missions per day. In addition, the artillery fired its shells into the city for five days on a twenty-four hour basis. Field Marshall Mannstein, who was in charge of the assault, had decided on this unusually long and heavy softening-up operation because of Sevastopol's heavy defenses with hundreds of concrete and armor-plated gun emplacements, a deep belt of pillboxes, powerful batteries, and three defensive strips with their total of 220 miles of trenches, deep minefields, and other means of defense.

The artillery barrage was extraordinary; the Germans used 1300 guns in the attack. Of particular importance were heavy mortars. Two mortar regiments comprised twenty-one batteries with over 500 barrels, designed to fire high explosive and incendiary oil shells. In addition, the Germans used three super-guns specially built for siege activity.

There were three defense areas in and around Sevastopol. The first system was two miles deep with four sets of trenches and concrete emplacements, with a thick belt of antitank mines. The second was about

*Most of the information for this case study was taken from Paul Carrell, *Hitler Moves East, 1941-1943*, Little, Brown and Company, Boston. The book is a translated German text.

a mile deep and included many heavy fortifications with 12-inch batteries. The third ran immediately around the town. According to Soviet sources, the city was defended by about 100,000 men. The morale and fighting spirit of these troops apparently was very high. A Wehrmacht report describing the reduction of one pillbox states that after thirty men of a complement of forty in that pillbox had been killed by a direct hit, the remaining ten continued to fight "like demons." They only gave up after their political officer had shot himself.

By 17 June, 12 days after the assault had begun, the Germans had penetrated the first and second defense belts but their situation, according to their own description, was "far from rosy." They had suffered heavy casualties and began to feel a shortage of ammunition. Besides, some of the Russian 12-inch guns in Fort Maxim I continued to dominate some fields of fire in front of Sevastopol. The Germans decided to destroy the fort with the aforementioned super-guns and finally succeeded. Of the 1000 men who had manned the three-story-deep installation, only 50 wounded survived.

After the destruction of that particular fort, the battle was more or less won for the Germans, but resistance continued everywhere. Again, Stukas were used to blast an opening into the city, and on 27 June German troops began crossing the bay that separated most of them from Sevastopol. It was now the turn of the remaining civilian inhabitants to resist. To give an idea of the intensity of the fighting: 1000 women, children, and remaining soldiers had taken shelter in a barricaded gallery in the cliffs. When the Germans asked that the group surrender, the commissar in charge and those inside blew up the entire gallery, taking a number of German soldiers with them to their death. Finally, on July 3 after a siege of 29 days, the fighting came to an end.

Comment: This case study was included mainly as an example on the high-intensity end of the spectrum: the extremely violent reduction of a powerful fortress. To the MOBA student it may be of interest because it shows how much punishment a well-built and well-defended city fortress can take. (But it also shows, of course, that such punishment cannot be absorbed ad infinitum.)

8. HITLER'S "BREAKWATER" DOCTRINE

Hitler was intensely interested in the problem of urban warfare, primarily from the viewpoint of casualty exchange ratios and the strategic objective of slowing down an advancing enemy by forcing him to fight in towns and cities in the path of his advance. Even though the generals largely disagreed, Hitler put his strategy to the test in many places, after Stalingrad. The Diary of the Wehrmacht has this to say on the subject:

One leadership principle which Hitler adopted more and more toward the end of the war, might be called the "Breakwater" Doctrine. Its essence was to improvise a transformation of cities into "fortresses" and continue to defend them even when the enemy had already bypassed them to the right and left. This doctrine produced a whole series of such "fortresses" in the West. But Hitler followed this tactic also in the East, on the assumption that the enemy needed more forces to take such a fortress than were needed to defend it. This assumption was in turn based on another: that the enemy had to reduce these pseudo-fortresses as he needed their harbors or traffic centers. However, this was true only in some cases, and if the enemy really needed more forces to reduce a fortress than were needed to defend it, he could use inferior troops for the purpose. With regard to the Red Army Hitler's theory was very much a miscalculation, as its forces were at all times *numerically superior* [translator's italics] to the German forces in the East.*

Earlier Diaries contain some entries of interest in this connection, regarding the Eastern Front in 1945. For example, on February 16:

In all it must be said that as a result of the resistance in Posen and other forts the enemy's advance has been clearly delayed and made more difficult. However, the same entries reveal that the delay was only very limited, and that, moreover, the utilization of German forces for the defense of these forts still further aggravated the numerical inferiority of the German forces on the fighting fronts.

Commanders who surrendered their fortresses were severely punished, but, in some cases, acted on their own, anyway, among others the commandant of Schweidmuehl, after a 21-day defense. After that period of time he tried to

* *Kriegstagebuch des Oberkommandos der Wehrmacht, 1940-1945*, op. cit., pp. 53-54.

break out of the fortress with his forces on the grounds that he "no longer could serve as breakwater with what was left to him of the city."

The most serious consequences of the breakwater doctrine were suffered by the Army Group Kurland. It was left standing at (and between) Libau and Riga in order to draw down as many Red Army troops as possible. Ultimately, these forces were all captured or destroyed because they spurned all openings for a retreat while such openings still existed.

In conclusion, the writers of the Wehrmacht Diaries express the view that delays achieved by the Breakwater Doctrine were *not* significant; that they amounted at best to weeks, if not merely days, and were therefore "irrelevant." Their final comment is: "If a strategy only aims at slowing down the course of fate, it no longer qualifies as a strategy."

Comment: The situation Hitler faced in Russia is not likely to be analogous to any NATO/WP engagement because in a NATO/WP engagement both sides would be more equal in strength, all things considered; at least that is the prevailing view. This was not the case in World War II when, after Stalingrad, the Wehrmacht was definitely weaker than the Allies. Still, the above dispute between Hitler and his generals points up a critical element for urban warfare. A resolute defense of urban areas can (1) delay the attacker and (2) exact a price from him. The question is whether this is cost-effective for the defender who will in all likelihood have to regroup and counterattack if he yields at first at any given point. Also entering into the calculation are--or at least were in the past--considerations that are not strictly military: The loss of one or more urban areas may not be strategically significant, yet have powerful political repercussions as long as urban areas still have symbolic value. This factor probably weighed more heavily with Hitler than with his generals.

Hitler did not want to pull back his forces in Russia at any point in order to be able, perhaps, to regroup them further back along a shortened line in orderly fashion. He did not want to do this for what seemed to him good military and psychological reasons. Instead he insisted that every inch of ground be defended. This included the defense

to the proverbial "last man" of every city and town in the way of the Russian advance. The cities and towns, he thought (or at least said), could and should act as a "breakwater" against the Red Armies flooding westward.

Hitler's generals thought he was wrong. They wanted to withdraw in strategic fashion rather than be pushed back in a disorderly and costly retreat, forever off balance and unable to regroup. They also thought that to fight to "the last man," whether in a town or in open country, just in order to deny the Russians a small advance, was folly.

The specific problem with the breakwater strategy as advocated by Hitler was its fragmentation of resources with no attempt to utilize the cities as a part of overall strategic doctrine. He merely viewed the cities as of themselves strong points which could hold up the Russian advances. He may have misjudged to what degree the loss of German troops in cities and towns would weaken his overall defense. In this sense, German losses far outweighed the short gain in time that the breakwater strategy gave. Moreover, as the generals claimed according to the source, the enemy did not use his elite troops to invest the cities, so that not much was gained even when they were successfully defended for a while.

Although Hitler and his generals each had some points on their side, the argument was essentially idle, as the war was lost, and clever strategies could at best prolong it. Therefore it did not really matter whether the Wehrmacht held on to each city individually or fell back and regrouped. This was all the more true as the principal purpose of an orderly retreat and subsequent regrouping serves generally the purpose of launching a counterattack. Whatever Hitler may have thought, the generals no doubt had given up all thoughts of such a counterattack (although in the Diary they never say so). They probably hoped to fall back to German soil and then make a stand there, together with some negotiations.

For this reason mainly, any analogy between the World War II situation in Russia after Stalingrad (and Normandy), and the situation in a NATO/WP confrontation is severely limited. The value of delay is likely to be greater for NATO than it was for the Wehrmacht, especially if the

de facto strategy of the NATO commander is to make a fighting withdrawal to the West, keeping his forces more or less intact until reserves can be mobilized and regulars flown in from North America. (The Wehrmacht had no prospect of eventual massive reinforcement.) The NATO commander might feel even so that the small *additional* delays achieved by allowing some of his city-defending forces to be encircled would not be worth the probable unfavorable exchange ratio in casualties. On the other hand, if the city-defending forces were *not* regulars, not capable of mobile, open-country combat, that is, if the city-defending forces were largely local (city) home guard reserves, the NATO commander might make a different calculation; the delays achieved by a breakwater strategy might be worth the relatively small decrease in his overall military effectiveness due to the loss of an encircled city militia.

All things considered--including political factors--it would appear as though Hitler's Breakwater Doctrine, though of no use to him in his essentially hopeless military situation, might have some validity for NATO planners. Much will depend on overall objectives of the two warring parties and--tied in with this--their inclination or disinclination to escalate when frustrated (WP) or pushed back (NATO).

III. SOVIET TACTICS IN EUROPE, 1944-1945

1. INTRODUCTION

This section summarizes postwar Soviet assessments of the tactics employed by Soviet forces to take major cities and population centers during their offensives in Europe in late 1944 and 1945. It relies solely on Soviet sources, primarily the military memoirs of Soviet commanders.

While research in current Soviet military literature has made it possible to establish certain principles of Soviet combat tactics in built-up areas, it has not uncovered a systematic and well-defined Soviet concept of this particular type of special military operation.* It is logical to expect that modern Soviet military operations in built-up areas (MOBA) would be the product equally of their existing technological capability and of their historical experiences in the last war. The extensive memoir literature of Soviet marshals and generals in World War II ruminates sedulously on the lessons learned in the last war; it provides ample material on actual Soviet military values and war-fighting style that complements and corroborates the formal doctrinal declarations in current Soviet literature, including those on urban warfare tactics. A mix of fact, wishful thinking, and deliberate slant, the memoir literature reveals distinct Soviet military preferences and value judgments that are likely to figure in decisions regarding promising military tactics in the present day. In fact, Soviet military spokesmen insistently and constantly remind their audience that the experiences in the military operations of World War II are of instructive value under modern conditions, especially those

*Recent studies by the Stanford Research Institute present a detailed survey and an analysis of current Soviet military literature on urban warfare tactics. See John C. Scharfen and Michael J. Deane, "Soviet Tactical Doctrine for Urban Warfare," Vols. 1-3, Technical Notes SSC-TN-2625-13 through -15, October 1975, published by the Strategic Studies Center, Stanford Research Institute.

in the concluding period of the war.* Accordingly, the present study has focused on this phase of Soviet military operations.

Of the late 1944-1945 period, it must be noted that by 1944, not only were the Soviet forces better equipped and their doctrine and combat skills modernized by experience in the war, but also that the Soviets possessed a strategic initiative that they strove to exploit to the fullest. All of their operations were designed to achieve the maximum speed of advance westward. Increased materiel permitted heavy reliance on tanks, artillery, and air support, and the implementation of a strategy of attacking enemy objectives simultaneously along multiple axes. This strategy and force employment characterized also Soviet operations in cities.

The European campaigns provided the Soviets with extensive experience in taking urban centers on foreign territory controlled by enemy forces. Accounts of Soviet military commanders make it clear that even at this stage Soviet tactics in urban combat were still being improvised and developed. They note also that the circumstances differed significantly from those in Russia proper in that Soviet forces could no longer rely on the valuable support of partisan units operating in the enemy rear.

Although the historical Soviet accounts examined for this paper do not expressly recommend specific urban combat tactics as directly

* First Deputy Minister of Defense Army General S. Sokolov asserts that despite the radical changes in weaponry during the three postwar decades and the introduction of nuclear arms "the military experience gained in the last war, especially in its concluding stage, has not lost its meaning." Sokolov cites the experience of the 1945 European campaign as being of "exceptional value," particularly those aspects of its relating to assuming the offense from the defense without an operational pause. Army General S. Sokolov, "Sovetskoe operativnoe iskusstvo v kampanii 1945 goda v Evrope" (Soviet Operational Art in the 1945 Campaign in Europe), *Voenno-istoricheskii zhurnal*, No. 5, May 1975, p. 35. A recent *Krasnaia zvezda* article hailed the "operational-tactical skill of unit headquarters participating in the storming of Berlin," noting that during the training of staff officers with the Group of Soviet Forces in Germany, "some episodes of the battles were replayed, naturally with consideration of contemporary demands." (*Krasnaia zvezda*, June 12, 1975, p. 2.) See also F. D. Vorob'ev, I. D. Parot'kin, and A. N. Shimanskii, *Po slednii shturm* (The Final Assault), Moscow: Voenizdat, 1975.

applicable to present-day warfare, they do advance judgments on the principal tactics developed by the Soviets during the last stage of the war. While recording its retrospective disagreements about which forces were most effective in MOBA, the military memoir literature does not argue with the sustained offensive strategy of this period. It clearly advances the view that enemy resistance in population centers had to be annulled by swift and decisive assaults in order to minimize the delays inherent in street combat.

Soviet discussion of MOBA during this period was found to be sketchy, with relatively systematic accounts devoted only to the assaults on such effectively defended major cities as Budapest, Vienna, Belgrade, Koenigsberg, and Berlin.* The major accounts of these battles are the main basis for the summary presented in this paper. The occasional examples of small-unit tactics in small built-up areas have also been noted.

2. DEVELOPMENT OF SOVIET URBAN COMBAT TACTICS DURING WORLD WAR II

A recent Soviet military treatise recalls that a directive issued by the Soviet Supreme High Command on February 25, 1942, noted that urban combat remained a weak point of Soviet tactics. In particular, it directed Soviet commanders to devote intensified effort to pre-combat reconnaissance, to practice direct artillery fire more widely and to achieve surprise by concentrated and deceptive shifts of fire, by sudden strikes at the flanks and the rear, and by bold bypassing of strong-points to leave them blocked in the rear. Camouflage and deception were to be made part of the operations of the Soviet forces. The directive also called for training commanders in tactics that kept the enemy under constant pressure and forced him to squander his ammunition.[†]

*In particular, Budapest, Koenigsberg, and Berlin are named in a current Soviet assessment as the primary historical examples of Soviet tactics in large urban centers. See Army General A. Radzievskii, "Taktika sovetskikh voisk v zavershaiushchem periode voyny v Evrope," (Tactics of Soviet Forces During the Concluding Period of the War in Europe), *Voenna-istoricheskii zhurnal*, No. 5, May 1975, pp. 40-41. See also Col. A. Sidorchuk, "Boevye deistviia voisk po ovladeniiu krupnymi gorodami" (Troop Combat Actions in Seizing Large Cities), *Voenna-istoricheskii zhurnal*, No. 10, October 1971, pp. 20-27.

[†]Major General V. A. Matsulenko, *Operativnaia maskirovka voisk; po opytu Velikoi Otechestvennoi voyny* (Operational Concealment of Troops; from the experience of the Great Patriotic War).

In Soviet judgment, the principal flaw in operations against population centers in the earlier stages of the war was their prolongation due to the use of frontal attack. Subsequently, Soviet tactics were redirected to isolating and encircling the enemy garrisons in population centers, followed by driving wedges through their positions and destroying the enemy force piecemeal. The last stages of the war proved the efficacy of simultaneous encirclement and destruction of an enemy force defending a town or city.*

During the 1944 and 1945 offensives, Soviet tactics in urban combat, like those in the field, were governed by the High Command instructions to speed the Soviet advance. Simultaneous offensives staged along separate but coordinated axes made it obligatory that designated missions be completed by designated times to ensure the success of the overall campaign plan. As a result, Soviet operations were characterized by a massive application of force against enemy objectives resisting the Soviet advance, including population centers containing significant enemy forces, in order to subdue all resistance quickly and maintain a rapid advance. Engaging in street combat meant delay and had to be avoided. To the extent that it was feasible, the time-constraint-dominated strategy called for the forward mobile forces to block and bypass enemy strongpoints, including those in towns, and leave consolidation and mop-up operations to the main forces. It is emphasized that regardless of how strong the defenses of the enemy were, the Soviet forces then carried out sustained siege and assault until they gained full control of the town or city.†

experience of the Great Fatherland War), Moscow: Voenizdat, 1975, p. 13.

* *Istoriia Velikoi Otechestvennoi voiny Sovetskogo Soiuza 1941-1945* (History of the Great Patriotic War of the Soviet Union), Vol. VI, Moscow: Voenizdat, 1965, pp. 241-242 (hereafter cited as IVOVSS); Major General V. Cherniaev, "Nekotorye osobennosti voennogo iskusstva v Berlinskoii operatsii" (Some Peculiarities of Military Art in the Berlin Operation), *Voenna-istoricheskii zhurnal*, No. 4, April 1975, p. 109.

† Marshal of the Soviet Union R. A. Malinovsky (general editor), *Budapesht - Vena - Praga*, Moscow: "Nauka," 1965, p. 146; Marshal of the Soviet Union I. S. Konev, *Sorok piatyi* (Year 1945), Moscow: Voenizdat, 1966, p. 234.

The rapid, deep advance by powerful mobile units dissecting the enemy's defense lines, cutting off his communications and thus paralyzing his ability to maneuver forces was seen as a winning strategy. The targets of the Soviet offensives were major German force concentrations. Where these were garrisoned in cities or towns, the tactic was to surround them and then present ultimata for surrender. It was after these were ignored or rejected by the Germans, that the Soviet forces would stage massive and decisive air and ground assaults to bring about the quickest defeat of the enemy force.* As these assault operations were time-consuming and slowed the advance, Soviet forces were under orders to advance so rapidly that they could seize and hold population centers before enemy forces could retreat into the town and take up defense positions there. In some key instances, towns along the attack route housing sizable enemy garrisons were seized rather than invested, because containment required troops that were needed in the advancing formations.† The failure to bring along significant reserves that could be used in blocking operations was apparently due also to the serious Soviet logistics problems in keeping adequate rear supply moving with the advancing forces.**

Swift defeat of enemy resistance in urban centers became the guiding principle underlying Soviet MOBA tactics. Assaults were staged uninterrupted around-the-clock, and, where possible, forces were echeloned for day and nighttime operations. Heavy artillery fire and air bombardment were employed in cities for the purpose of reducing street

* Sidorchuk, p. 21.

Marshal of the Soviet Union M. V. Zakharov (general editor), *Osvobozhdenie Iugo-Vostochnoi i Tsentral'noi Evropy voiskami 2-go i 3-go Ukrainskikh frontov (1944-1945 gg.)* (Liberation of Southeast and Central Europe by the Troops of II and III Ukrainian Fronts), Moscow: "Nauka," 1970, p. 17; Army General S. M. Shtemenko, *General'nyi shtab v gody voiny* (The General Staff in the War Years), Vol. 2, Moscow: Voenizdat, 1973, p. 216.

† Marshal of the Soviet Union V. I. Chuikov, *Konets tret'ego reikha* (The Demise of the Third Reich), Moscow: "Sovetskaya Rossiya," 1973, p. 14 (page numbers refer to the abbreviated version of this title published by "Molodaya gvardiya" in 1974).

** Ibid, pp. 28-30.

fighting to the minimum.* In the 1944-45 offensives in Europe, rapidly advancing Soviet forces took numerous smaller towns directly from the march. This tactic utilized the advantages of surprise and minimized the chances of becoming slowed down in street fighting. On the eve of the Hungarian campaign, the Soviet front command actually weighed the possibility of attempting to take Budapest from the march, but decided against it as involving "unjustified risk."[†] The political pressures for swift and, it was hoped, decisive actions, however, were overwhelming. Stalin personally overruled the objections of the front commander Marshal Malinovsky and ordered an immediate assault on Budapest without waiting for the needed reinforcements.[‡] In Malinovsky's post-war assessment, this "misplaced haste" protracted the fighting for the city.**

Soviet commanders' accounts routinely stress that swiftness and daring of combat actions are decisive in MOBA.^{††} One illustration recounts the employment of swiftly moving tank units to ram through populated points while spraying intense fire, a tactic that effectively offset the inherent vulnerability of a tank force in MOBA.[‡]

For the express purpose of avoiding protracted street combat, Soviet attacks on forces in built-up areas were carried out in a manner

* Marshal of the Soviet Union G. K. Zhukov, *Vospominaniia i razmyshleniia* (Reminiscences and Reflections), Vol. 2, 2d ed., enl., Moscow: Novosti, 1974, pp. 348-350; Chuikov, p. 82.

[†] Malinovsky, p. 43.

[‡] Stalin justified his action by "political reasons:" Taking the Hungarian capital would hasten the formation of the Soviet-promoted "democratic government" in Hungary by putting pressure on reluctant elements from the bourgeois parties. Ibid., pp. 81-82.

** Ibid., p. 83. See also IVOVSS, Vol. IV, (Moscow: Voenizdat, 1962), p. 407, for a characterization of the Budapest fighting as singularly "savage" and protracted.

^{††} The inherent interdependence of speed and risk-taking is illustrated by Marshal Konev's statement that time was allocated the first priority in the Soviet plan for the advance to Prague with full cognizance that only "daring actions" would permit the execution of the plan. Konev, p. 234.

[‡] Zakharov, p. 125. See also page 40 below.

calculated to demoralize the defenders: Besides surprise and heavy fire, they relied upon night attacks, attacks from several directions, and simulated encirclement to induce enemy forces to retreat out of the built-up areas so that they could be destroyed in the field.* Reference is made to wide use of smokescreens and incendiary means in city fighting in the last stages of the war, but no elaboration of these tactics was found in the materials available.†

The literature emphasizes two operational concepts used in Soviet assaults on forces in built-up areas: (1) Unless overcome in a swift surprise attack, an enemy force in a built-up area had to be isolated from outside support by envelopment or encirclement, as these maneuvers permitted quick defeat of the defenders in the area or else induced them to withdraw and be more easily routed in the field; and (2) the smaller units of all service arms participating in assaults on built-up areas were trained to redeploy into assault detachments and groups capable of independent but coordinated actions to destroy quickly the key enemy resistance points in a town or city.

* Chuikov, p. 67-68; Shtemenko, p. 361.

† Chief Marshal of Armored Forces P. A. Rotmistrov (editor), *Istoriia voennogo iskusstva* (History of Military Art), Vol. II, Moscow: Voenizdat, 1963, p. 666. Chuikov, p. 15, notes that prompt capitulation of the German forces in the fortified buildings of Poznan resulted from the Soviet tactic of pouring an incendiary mixture down the ventilation conduits of the buildings. Zhukov, p. 355, notes smokescreen use by assault detachments in Berlin street fighting. The absence of Soviet works on incendiary arms and their combat use has been noted in Soviet military comment. A short volume dealing with both Soviet and Western experience has just been published by DOSAAF, the civil defense administration, but was not available at the time of this writing. See A. V. Babushkin, *Ognem raziazhchie* (*Zashigatel'noe oruzhie*) (Striking With Fire: Incendiary Arms), Moscow, DOSAAF, 1975. A review in the USSR Defense Ministry's military history journal called attention to the volume's principled recommendations for the use of incendiary arms in specific combat operations, including MOBA. The review noted the author's emphasis that military experience has shown the use of incendiary arms against unprepared enemy troops and his civilian population to have the greatest strike effectiveness, and concluded that for this reason the work was currently of "particular topicality." (V. Zolin in *Voенно-istoricheskii zhurnal*, No. 1, January 1976, p. 120.)

3. USE OF FORCES

This section is organized to reflect the emphases of the Soviet accounts on the different forces and their problems in urban combat. Although the particular use of certain forces at the time, such as tanks and artillery, may be outmoded in modern conditions, it reflects the tactical principles that the Soviets sought to implement with the best means available at the time. In this sense, the current Soviet evaluations of these forces represent retrospective endorsements of tactical principles and are informative for an assessment of preferred Soviet tactics in a contemporary contingency.

Time being the dominant guideline of Soviet operational plans in the concluding period of the war, the field commanders sought to maximize their firepower and mobility. Of the ground forces, tanks and self-propelled artillery possessed these qualities to the highest available degree, until they became involved in combat in built-up areas that severely restricted their capabilities and rendered them extremely vulnerable. Infantry units, while capable of the utmost flexibility in response to the conditions of street combat, were severely lacking in mobility and firepower. Yet, the combination of the qualities of flexibility and precise attack with those of rapid mobility and decisive firepower was essential in the Soviet striving for time and quick defeat of the enemy resisting in the labyrinthine cover of a city.

The solution was to combine the different forces in small, powerful mobile units with foot soldiers as the most numerous components. These units were employed to stage simultaneous and coordinated assaults to eliminate the strongholds of enemy resistance in towns and cities. These integrated "assault detachment" units were not a separate force, but a latent tactical formation that was brought into being at the combat scene immediately before the assault. According to Soviet accounts, this capability for instant reforming and combining units from the different services was the result of thorough training and organizational arrangements.*

*For descriptions of elaborate exercises of the Soviet troops in a realistic mock-up of Berlin, which stressed reforming into assault

Assault Detachments*

Assault detachments and groups were the basic tactical unit of Soviet forces engaged in assaults on towns or cities. They were formed in the combined-arms as well as the tank units, and their mission was to clear out the individual enemy resistance points in urban combat zones. The detachments ordinarily comprised an infantry battalion, units of combat engineers, and frequently flame thrower troops. These were reinforced by tanks, self-propelled artillery and anti-tank guns. Detachments were subdivided into smaller subunits, called assault groups, which consisted of up to a platoon of infantry and submachine gunners reinforced with 2 to 4 artillery guns, several tanks, and combat engineer and flame thrower troops. Infantry officers were normally in charge of assault detachments because infantry troops were the most numerous elements.

The literature clearly features the effectiveness of these units, crediting them with the central role in street fighting and the quickened seizure of enemy strongholds and resistance points. It also emphasizes that these units were formed in all service arms involved in the assault. Assault detachment operations in fortified cities

detachments and integrated joint support, see Marshal Chuikov's account (pp. 47-48) and Army General A. L. Getman, *Tanki idut na Berlin (1941-1945)* (Tanks are Moving on Berlin), Moscow: "Nauka," 1973, pp. 329-330. Similar exercises were held prior to the assault on Koenigsberg (see IVOVSS, Vol. V, Moscow: Voenizdat, 1963, pp. 171-172).

* Rotmistrov, pp. 665-666, provides a capsule description of the wartime assault detachment formations and missions. Information for this section was obtained also from the following sources: Lt.-Gen. N. I. Biriukov, *Trudnaya nauka pobezhdet* (The Difficult Science of Winning), 2d ed., rev. and enl., Moscow: Voenizdat, 1975, p. 328; Lt.-Gen. (ret.) F. Bokov, "Initsiativa i nakhodchivost'" (Initiative and Resourcefulness), *Voenno-istoricheskii zhurnal*, No. 6, June 1975, p. 71; Cherniaev, p. 110; Chuikov, pp. 14-15, 47-48, 90; Getman, pp. 352-354; IVOVSS, IV, p. 408, and V (Moscow: Voenizdat, 1963), pp. 172-174, 213; Marshal of Engineering Troops V. Kharchenko, "Inzhenernye voiska" (Engineering Troops), *Voenno-istoricheskii zhurnal*, No. 4, April 1975, p. 76; Malinovsky, pp. 148, 150, 164-166; Radzievskii, pp. 40-41; Sidorchuk, pp. 23, 24; Colonel A. A. Stokov (general editor), *Istoriia voennogo iskusstva* (History of Military Art), Moscow: Voenizdat, 1966, pp. 493-494; Zhukov, pp. 350, 355.

received tactical support from artillery and air forces, and in coastal cities, like Koenigsberg, by the naval air forces also.

Having been employed sporadically by Soviet troops since the battle of Moscow in December 1941, the assault detachments were introduced increasingly after the battle of Stalingrad in 1943 and were gradually enlarged in size and firepower to afford greater independence of action. In the 1944-45 campaigns, assault detachments were a regular feature of Soviet formations in street fighting.

The tactics of the assault detachments relied on stratagem, surprise, and strong firepower. In large cities that had dense and elaborate defense systems, assault detachments avoided advancing along streets where they would have come under the defender's fire. Rather, they sought to surprise the enemy by coming upon his defense positions from the rear and flanks. Invariably, direct artillery fire upon strongholds preceded the assault detachment actions, with individual assault groups then deploying toward their objectives through such underground passages as subways, tunnels, and sewers, or blasting the needed passage through intervening building walls by explosives. The strong assault detachments employed in Berlin had--in addition to artillery support--their own fire units, comprising mortars, large-caliber artillery, and SPA mounts.

By the time of the Berlin operation, the assault units were structured in several echelons.* An assault detachment also was provided with a reserve ranging from an infantry platoon to a company. The tasks of the reserve unit were to relieve the assault troops, consolidate success, repel counterattacks and clear out the seized objectives. The assault groups as well were provided with a reserve subunit when assigned to attack fortified buildings.

*Throughout this text, the Soviet usage of "echelon" corresponds to U.S. military usage of "wave." In Soviet usage, the term "echelon" has two distinct meanings. One corresponds to the American usage and denotes that units are staggered one in the rear of another to produce a "wedge" or "steps." The other corresponds to the American usage of "wave," i.e., the first wave of attack, the second wave of attack, etc. Occasionally, in this second sense the Soviets will employ the term "second echelon" to refer to what in American military terminology would be called "reserves."

Soviet accounts stress the combined-services nature of the assault detachments and note the need for careful prior organization and joint training of the several forces. Marshal Chuikov's account of Berlin states that in his army each division and regiment designated special battalions that underwent intensive training before the battle. Training stressed the organization and operations of assault groups and detachments and the mutual support of different service troops in these; it included street fighting methods, and the use of captured materiel, in this case, German antitank weapons "Panzerfausts." Chuikov also reports that, having advanced in the suburbs of Berlin, his army reformed into assault detachment and group formations while on the march, so as to maintain its rate of advance.*

Marshal Chuikov highlights the fact that, once fighting in a city began, the commanders and staffs at *soedinenie* and regiment level in the immediate combat zone rather than those of the major units became, in fact, the ones responsible for the course of combat.† As leaders of those platoons, companies, and battalions, from which the assault units were formed, the lower level commanders were responsible for ensuring the close mutual support of the troops. Other accounts stress that assault units were preassigned specific missions and combat zones in accordance with the overall battle plan.

Infantry

Infantry troops formed the backbone of the assault detachments. They also proved indispensable as support attachments to tank units in seizing any sizable urban settlement. The need for large numbers of infantrymen to secure captured sections is implicitly acknowledged in Soviet comment on rear security, particularly in Berlin. It is also noted that an insufficiency of infantry sometimes prevented the blocking and quick bypassing of urban concentrations of enemy forces, and the attackers had to resort to assault.

The assault detachment formations, initially involving infantry units up to the company level, were extended into the battalion level

* Chuikov, p. 76.

† Chuikov, p. 82

subsequent to Budapest. Infantry officers were normally placed in charge of the detachments and their assigned tank and artillery reinforcements.

In street fighting, infantry units were assigned narrow fronts of attack. As the Soviet forces converged on the center of a city, the front widths decreased further, with a corresponding increase in the density of units and materiel. In Budapest, along the axis of the main effort, infantry divisions initially advancing along 800 m wide fronts were reduced to 400 m wide sectors as the assault converged on the center of the city. Infantry regiment sectors decreased from 300 m to 150 m. Depending on the conditions, divisions were staggered in from one to three echelons.* In the central sectors of Berlin, the combat sector of a rifle regiment limited at first to 200-250 m came to comprise but one street. Characteristically, one rifle battalion and its attachments advanced along each side of the street, with the third battalion following as the second echelon to comb through the seized structures. The zone of an infantry division was usually two to three streets.[†]

An account of Budapest fighting, under the editorship of Marshal Malinovsky, stresses the crucial importance of flank security in street fighting, and notes that in Budapest "special groups" were detailed to the flanks for this purpose. The usual mission of these groups apparently was to block off the buildings occupied by the enemy. This account also notes that it is "of very great importance" to have ready reserves at the regiment level that carry out the final clearing of buildings as well as assume responsibility for security in the rear of the forward units. The typical composition of this reserve unit included: a submachine gun company, a reconnaissance platoon, and combat engineers. The unit was stationed with the regiment commander's post.[‡]

* Malinovsky, p. 165.

† Bokov, p. 71.

‡ Malinovsky, pp. 165-166.

In Berlin, infantry regiments were formed in two echelons, with the second one intended for relief as well as the consolidation of success. One eyewitness account notes that in Berlin, despite the massing of Soviet troops in the city, there was still a lack of troops to clean out thoroughly the captured buildings and secure the rear against enemy attacks. It also records that Soviet troops were fatigued from sleeplessness, lack of food, and above all, lack of water, which apparently was unavailable to many.*

Throughout the campaigns in Europe, teams of submachine gunners mounted on tanks were utilized as the initial shock troops in swift surprise charges on enemy positions in built-up areas.

Reconnaissance troops were employed not only as scouts, but also for combat missions. Their tasks included seizing especially important points, holding them until the arrival of the main forces, locating and protecting elements sympathizing with the Soviets, such as German political prisoners, and detaining persons that the Soviets wanted viz., the ex-President of the Austrian republic in Vienna. Reconnaissance troops often ranged far in advance of the assault groups.†

Tanks

Tanks were employed widely and on a massive scale in urban combat during the Soviet offensive in Eastern and Central Europe. Four entire tank armies participated in the fighting for Berlin, and individual tanks as well as small tank units were an integral part of assault detachments in the taking of every city. Smaller towns along the advance axes of the Soviet troops were commonly taken from the march by forward Soviet tank units. The mutual support of tanks and infantry was close and took a variety of forms. In retrospect, Soviet military spokesmen view tanks as having performed well in providing armored mobility and firepower in the infantry-dominated assault detachments, but as failing to perform well on their own as the mobile and decisive firepower deemed necessary in major urban combat.

* Col. (ret.) P. M. Parkhomovskii, "V dni shturma Berlina" (In the Days of the Berlin Assault), *Novyi mir*, No. 6, June 1975, p. 195.

† Biriukov, p. 334.

Thus, in the Soviet assessment of the World War II experience, the use of small groups of tanks in the city in joint support with other service arms is widely recognized as useful, but the employment of tank armies in the city appears to be rejected. A recent article on the peculiarities of the Berlin operation comments that the use of large tank formations in Berlin was justified only because this was the concluding operation in the defeat of Germany. It is pointed out that in street combat tanks lost their principal advantages of maneuverability and firepower and incurred great losses primarily because of their vulnerability to antitank grenades. This same analysis, however, endorses the use of smaller tank units: "Experience proved that in battles for a city it is useful to employ tanks in small groups and in close interaction with other services, especially with infantry."^{*} The classic military art history of the Officer's Library appraises the use of tanks in Berlin fighting as follows:

Among the peculiarities of tank utilization must be considered the use of tank armies in the fighting for a major city. The experience of the operation demonstrated the inefficiency of such use of tanks, since under those circumstances tank armies lose their principal qualities--maneuverability and shock action.[†]

Specific difficulties experienced by large tank units, especially in the street fighting in Berlin, are amply described in the memoirs of tank commanders.[‡] Some commanders appear to prefer self-propelled artillery for fire support because it is less vulnerable than tanks. Yet, some recent authoritative statements expounding favorably on the

^{*} Cherniaev, pp. 112-113.

[†] Stokov, p. 494.

[‡] See, for instance, Getman, op cit., passim, and Col.-Gen. of Tank Forces D. A. Dragunskii, *Gody v brone* (Years in Armor), 2d ed., rev. and enl., Moscow: Voenizdat, 1975, passim. Marshal of Armored Forces M. E. Katukov, *Na ostrie glavnogo udara* (Spearheading the Main Strike), Moscow: Voenizdat, 1974, apparently evaluating favorably the experience of his tank army in urban fighting, was unavailable at the time of the writing.

heavy employment of tanks in other urban assaults could be taken as indicating advocacy of tanks under certain conditions.*

Most accounts would indicate that tanks served to carry submachine gunners and engineers and to provide direct fire cover. They also served as armored protection of sorts for infantry. According to Marshal Chuikov, an effective tactic devised was to advance tanks along both sides of the street thus providing infantry units with cover when re-deploying under enemy fire.†

Forward tank units were also used to ram through (clearly flimsy) enemy defenses and to stage rear and flank attacks on built-up areas. As mobile firepower, tanks were most effective in seizing smaller settlements. This effectiveness, however, was largely due to the speed with which tank formations advanced on population centers, outmaneuvering and surprising German forces before they could take up positions there. One account notes the success of a tank brigade that advanced ahead of a mechanized corps and "swept through populated centers at full speed, carrying on a hurricane-like fire . . . from guns and machine guns." A reconnaissance patrol having cut off the retreat avenue of the German forces, this "hurricane-like fire" induced the defending enemy units to scatter their forces and made possible their quick defeat by the arriving main forces.‡

* Army General Tolubko, the present Commander-in-Chief of the Strategic Rocket Forces, in his 1973 account of the assault on Belgrade notes that Soviet forces had created the "necessary superiority" in men--3:1--and tanks--3.8:1 (Army General V. F. Tolubko and N. I. Baryshev, *Na izushnom flange; boevoi put' 4-go gvardeiskogo mekhanizirovannogo korpusa 1942-1945 gg.* [On the Southern Flank: the Combat Path of the 4th Guards Mechanized Corps 1942-1945], Moscow: "Nauka," 1973, p. 321). *Velikaia Otechestvennaia voina Sovetskogo Soiuza 1941-1945; kratkaia istoriia* (The Great Patriotic War of the Soviet Union: A Short History), 2d ed., rev. and enl., Moscow: Voenizdat, 1970 (hereafter cited as VOVSS), p. 475, notes that in the Koenigsberg assault Soviet forces had a "major superiority in tanks"--5:1--and aircraft--2,500:170, while having no superiority in infantry. The city and its fortress garrison of 134,000 men were taken within four days.

† Chuikov, p. 17.

‡ Zakharov, p. 125. Similarly effective use of tank brigades "to make way for infantry" in street fighting during the recapture of Kiev is noted in Marshal of the Soviet Union A. A. Grechko, "Osvobod denia

While smaller settlements permitted the successful implementation of the post-1943 Soviet tank doctrine of a decisive, uninterrupted advance without concern for rear security or open flanks and stressing the surrounding of the enemy force, this bold maneuver proved unworkable in large cities. In the suburbs of Berlin, Soviet tank armies found the forced advance and bypass maneuver impossible because the area was saturated with German position artillery and SPA. The tank advance was slowed and even halted, and "all hope came to rest on the infantry and the assault detachments" who slowly and methodically cut through the defenses. The rears of the slowly moving tank units became highly vulnerable, and it appears that security arrangements had to be improvised on the spot. One account reports that an improvised covering garrison was created by consolidating rear supply units into a large detachment that served as a covering force.* From underground passages, German troops would emerge to stage attacks on the rear of Soviet tank formations, and the accounts of Soviet commanders acknowledge that only the attached infantry support saved the tank units from disastrous losses.† To cope with these rear attacks, according to another account, Soviet tank covering detachments reinforced with submachine-gunner crews were deployed at street intersections and special obstacle groups were detailed to patrol underground passageways until the immediate zone of combat was completely secured.‡

That infantry support was on the scene was fortuitous in Berlin. General Getman's account of the battles of his tank corps in Berlin is openly critical of the Front Command's (Zhukov's) order to throw tank armies into action in Berlin suburbs as soon as infantry advance became slowed down by solid German defenses.** Getman reports that his tank corps could not advance rapidly, pull away from the infantry

Kieva at gitlerovskikh okkupantov" (Liberation of Kiev from the Hitlerite Occupants), *Novaia i noveishaia istoriia*, No. 6, 1973, p. 17.

* Dragunskii, pp. 288-289.

† Ibid., p. 323; Chuikov, p. 82.

‡ Getman, p. 355.

** Ibid., pp. 332, 350.

formations, and penetrate the German defenses. From the first to the last day of Berlin fighting, his tank units were unable to effect the commanded separation from infantry, but as a result, they could avail themselves of close infantry support that proved crucial. Getman notes that losses in tanks and field artillery were heavy even in the suburbs and that, by comparison, self-propelled artillery fared better.* In his memoirs, Marshal Zhukov justifies his orders by claiming that it was for the purpose of speeding up the defeat of German defenses and reducing street fighting to a minimum that heavy artillery, air attacks, and tank waves were ordered employed in the assault.† At the same time, this general directive at the higher level generated extreme and poorly informed orders at lower levels to force the advance at any cost; for example, General Getman reports that his tank corps was ordered to cross the Spree river in the city at a sector that, although immediate, was "extremely disadvantageous" both because of the terrain configuration and the location of German antitank gun concentrations.‡

The massing of Soviet forces in Berlin was calculated to hasten the defeat of the enemy force, although clearly due also to a desire to give as many troops as possible a part in the final triumph of the war. But it created everpresent hazards of subjecting Soviet forces to attacks by their own forces. General Dragunskii notes this in his account and reports that the Soviet forces crowded in the streets of Berlin amounted to 10 combined-arms and tank armies, many corps-size units, over 6000 tanks, and about 40,000 guns and mortars.**

Despite the grossly wasteful tactics employed in the assault on Berlin, its experience is still recognized as valuable for present day training. It must be assumed that the positive tactical lessons derived from it concern rather the operations of the smaller units. For street combat, the tank units, like combined-arms units, deployed

* Ibid., pp. 336-337, 342.

† Zhukov, pp. 347-350.

‡ Getman, pp. 350-352.

** Dragunskii, pp. 321-322.

into assault detachments and groups. According to General Getman, the assault detachments formed in each brigade of his tank corps included a tank company, a battery of self-propelled artillery (SPA) mounts, antitank guns, and subunits of reconnaissance troops, submachine gunners, and combat engineers. These detachments and their assault groups preceded the strung-out tank columns and facilitated their advance by securing water crossings and destroying enemy strongpoints. By examples, Getman illustrates the "very important role" of daring and initiative on the part of reconnaissance troops in his assault detachments and groups. He also reports that each detachment was assigned assault targets and concrete missions.*

Soviet air force spokesmen note appreciatively that the capture of airfields by tank units in Berlin permitted prompt rebasing of the air forces.

Artillery

Both heavy field artillery and SPA were widely employed in direct support of infantry and tank units in street fighting. Employment of large-caliber artillery as well as the massive use of it in city fighting generally is acknowledged as having effectively reduced street fighting to a minimum and hastened the end of enemy resistance.†

An account of the fighting in Budapest, edited by Marshal Malinovsky, notes as typical the displacement of up to 80 percent of artillery guns of all calibers for direct firing. Division and corps level artillery alone was left in covered firing positions because it was

*Getman, pp. 352-354. Part of these assault detachments were designated for day operations, others for night, in order to ensure street combat uninterrupted around the clock.

†Air Marshal S. I. Rudenko (editor-in-chief), *Sovetskie Voenno-vozdushnye sily v Velikoi Otechestvennoi voine; 1941-1945 gg.* (The Soviet Air Force During the Great Patriotic War), Moscow: Voenizdat, 1968, p. 409.

‡The city of Koenigsberg was subjected to a four-day artillery barrage before the Soviet assault that, in conjunction with air strikes, leveled the central sectors of the city. Artillery battalions with 203-mm to 305-mm guns were assigned as support of the assault detachments (IVOVSS, V, pp. 172, 174).

employed to destroy artillery and mortar emplacements deep in the enemy position. Even artillery of 122-, 152-, and 203-mm caliber was positioned for direct firing on enemy strongpoints and barricades.*

Lt. Gen. Biriukov, commander of the 4th Guards Army in the assault on Vienna, praises the effectiveness of heavy howitzers in Vienna displaced for direct firing, and notes that they effectively demolished walls and barricades that could not be breached by division and regiment guns: "As far as I know, direct firing from heavy artillery gave excellent results in street combat in other cities as well."†

At times, however, the Soviet penchant for massed artillery created problems, as in Budapest, where narrow streets and multi-story buildings forced the Soviets to deploy their direct fire guns in depth with the result that the rear batteries could not open fire. It is also noted that in Budapest, mortar units from several infantry regiments were consolidated and then used for "massive fire" against objectives under direct attack by infantry and to destroy the enemy's forward line of defense. The assault groups themselves were supplied with 37-mm, 45-mm, and 76-mm guns.‡

Note is also taken of the fact that the wide use of artillery, especially of the large-caliber guns, imposed great demands on transport, taking up much of the available transport means with artillery ammunition.**

Communication depended on wire. Communication breakdowns, especially in Berlin street fighting, interfered seriously with maintaining artillery fire in support of the advancing tank and infantry units. In his account of the Berlin fighting, Marshal Chuikov advises that artillery guns supporting infantry in assault groups must not always wait for infantry signals to fire. He also recommends that gun crews be dispersed, with only a couple left to man the weapon,

*Malinovsky, p. 116.

†Biriukov, p. 327.

‡Malinovsky, pp. 166-167. Marshal Chuikov (p. 90) asserts that the "experience of urban combat has proved that each assault group must be supported by no less than 2-3 artillery pieces, in addition to heavy infantry guns."

**Ibid., pp. 167-168.

while the others observe from adjacent buildings, so that in case of an enemy hit, the entire crew is not destroyed.*

As for the troops of all services, it is stressed that artillery troops have to act with initiative and resourcefulness. One such example describes a howitzer regiment relocating its howitzer to the third floor of a building so as to demolish a barricade fortification obstructing Soviet tanks, because a direct fire at ground level would have been impossible at close range.†

The recent account by Major General V. Cherniaev, describing the peculiarities of the Berlin operation and noting the usefulness of its experience for modern troop training, emphasizes the extensive decentralization of artillery in the assault: Most of it was attached to infantry subunits and assault groups for direct firing. He notes the effective use of up to 203-mm howitzers for direct firing, and of 120-mm mortars and antiaircraft guns for firing at the upper floors of buildings. In narrow streets inaccessible to heavy artillery, rocket projectiles M-31 were widely used for close firing.‡

As was noted above, in street fighting in the large cities losses of self-propelled artillery were lower than those of tanks. Like tanks, SPA was used as personnel carriers in advancing assault teams of sub-machine gunners and combat engineers.

Engineering Troops

Engineering troops were assigned generously to urban assault operations and were included in every assault detachment and group.** Their task was to facilitate the passage of infantry, tanks and artillery through mined sectors and barricades, and across bridges. The use of explosives to blast passageways through building walls for infantry and tanks appears to have been extensive. Smokescreens, especially in Berlin, could have also been a major responsibility of the engineering troops.

* Chufkov, p. 90.

† Parkhomovskii, p. 196.

‡ Cherniaev, p. 111.

** Malinovsky, p. 293; Kharchenko, p. 76.

In the Berlin operation, engineers constituted 12 percent of all troops, but still had to be supplemented by nonregulation combat engineers in all service arms.* One-third of the engineering troops of all armies in the assault on Berlin were in the assault detachment and group formations. On one of the fronts, this amounted to 84 combat engineer companies. In the assault on Koenigsberg, regiment-level assault detachments included one company of combat engineers, and the smaller assault groups formed within each infantry battalion included a platoon of combat engineers.† Supported by artillery and tank fire, engineers using explosives led the assaults on massive urban structures as well as street obstacles and barricades by creating passages for armor and troops.‡ The lack of adequate provisions for engineering support in Soviet urban battles of even this period is illustrated by a comment in General Biriukov's description of the street fighting in Vienna noting that a "new tactical method" was devised by equipping each of the assault troops with an axe or a pick.

The engineers' units apparently continued to have difficulty in denying the enemy the use of tunnels, subways, and sewer systems for penetrating Soviet lines.

Like spokesmen of other service arms, those of the engineering troops stress the importance of precombat organization and training procedures of the engineers with infantry, tank, and artillery units.**

Air Support

Soviet assaults on cities relied heavily on air support during both preparation and combat, and it, too, is ranked as a major factor speeding the defeat of enemy resistance in a city. It is noted that the air force contributed significantly to the reconnaissance effort, especially in Berlin.

The Malinovsky-edited account claims that in Budapest, "for humanitarian reasons," bomber aircraft were not employed and attack aircraft

* Cherniaev, p. 113.

† Kharchenko, p. 76.

‡ Zhukov, p. 355.

** Kharchenko, p. 77.

only were relied on to support the ground units. Their main mission was to destroy strongpoints that obstructed advance on the ground. While this tactic speeded the defeat of the besieged enemy, poor orientation and communication resulted in some Soviet troops being hit.* Aircraft were signalled to targets by air force representatives assigned to the combat formations of the infantry. Sniper pilots were employed to fire on small targets, well reconnoitered beforehand. The air force also maintained an effective air blockade of Budapest, which is credited with hastening the capitulation of the German force.†

In the assault on Koenigsberg, Soviets employed their massive air superiority--2500 Soviet craft against 170 German--for heavy bombardment. The 134,000-man German garrison surrendered on the fourth day, having undergone a Soviet air attack of 6000 sorties on the previous day.‡

Massive air attacks to disrupt the enemy military command and destroy the principal defense installations were delivered on Berlin just prior to the Soviet ground force assault mounted at night. Air reconnaissance preceding the assault was extensive. It is claimed that aerial photographs were taken of the city six times and, supplemented by intelligence from captured German documents and POW interrogations, used to prepare combat maps and plans for units down to the company level (i.e., assault group level).** The air force's history of World War II, edited by Air Marshal Rudenko, notes a number of air operations effectively performed in Berlin. Seizure of German airfields by Soviet tank units permitted prompt rebasing of the air force. The air force carried on uninterrupted bombardment with high explosive bombs that caused great personnel and materiel losses to the enemy. After smoke, fire, and dust had reduced visibility, Soviet air attacks were executed in waves by small groups of aircraft.††

* Malinovsky, p. 167.

† IVOVSS, IV, p. 404.

‡ VOVSS, p. 475; IVOVSS, V, pp. 174-176.

** Cherniaev, pp. 113-114.

†† Rudenko, pp. 407-409.

The air force's history also notes that air force command remained strictly centralized throughout the Berlin fighting, and that no air mission was flown, even by single aircraft, without authorization by the deputy commander of the air force.*

Communications

Communications by wire, cable, and radio remained a problem for Soviet troops directly engaged in street fighting. During combat, active units relied extensively on visual signals prearranged by the commanders of smaller units. Unreliable communications particularly hampered the artillery. Close proximity of corps and army command posts to the battle zone (500-800 m behind the front line in Berlin) and personal visits to the combat zone by higher staff officers assured channels for communicating orders and situation reports.

The Budapest account notes that during the battle, regiment commander's observation posts were within 150 to 300 m of the troops, while battalion and company commanders had to stay with their units and direct the assault on each objective personally in order to be able to retain command. Separations of hundreds of meters inevitably resulted in loss of command.†

In Budapest, wire was the main means of communications down to the company level. Once the units came under fire, communications usually were disrupted. Frequent relocation of the combat unit commanders and their posts also disrupted cable operations. Radio could seldom be relied on because of interference (jamming), which was counteracted to some extent by placing the radio antennas on roofs. Thus, command and control had to be ensured by the presence of lower unit commanders in the active combat units and by keeping authorized representatives of the higher command staffs close to the combat zones.‡

In his recollections of the Berlin assault, a howitzer regiment commander describes extensive problems with maintaining supporting

* Ibid., p. 407.

† Malinovsky, p. 168.

‡ Malinovsky, p. 168.

fire because of frequent breakdowns in wire communications. The communication systems were complex because of the multitude of wires and because units of all service arms were responsible for laying their own wire systems. He notes that as soon as wire communications were disrupted, support artillery was forced to cease firing for lack of target guidance.* Communications Troops Marshal Peresypkin acknowledges that the signal troops encountered severe problems in Berlin street fighting, but claims that communications remained dependable even with individual subunits. Duplicating wire lines and stationing radios in the upper floors of buildings are among the scant examples he supplies. Peresypkin notes, however, that in some instances cable communications were successfully maintained between corps command posts and assault detachments.†

Command and Control

Without elaborating, the literature mentions general problems and solutions for maintaining effective command in major urban combat. Untypically, the air force claims that it successfully maintained strictly centralized command during the fighting in Berlin, which extended to the missions of individual planes. Soviet ground troops, including the assault detachments, relied primarily on assigning specific and exact missions and zones of operation at the start of an assault operation. Because of lack of reliable information and rapid changes in the situation, it is recognized that the course of combat frequently required altering the initial orders. Prompt exploitation of the first signs of success was a necessary responsibility of the commanders on the scene, and General Getman pointedly cites this as a "skill that is one of the distinguishing traits of Soviet military art."‡ Marshal Chuikov's observation that commanders of smaller units were the

*Parkhomovskii, p. 195.

†Marshal of Signal Troops I. T. Peresypkin, *Svias' v Velikoi Otechestvennoi voine* (Communications in the Great Patriotic War), Moscow: "Nauka," 1973, U.S. Joint Publications Research Service translation No. 64919 (June 4, 1975), pp. 224-227.

‡Getman, p. 344.

ones who, in effect, determined the course of street combat could be entirely factual, inasmuch as they had to operate under conditions of recurring communications breakdowns.* Continuous higher staff authority was ensured by sending staff representatives at frequent intervals to the combat zones. To retain command, commanders of the combat-size units had to direct combat operations in person.† The assault detachments formed in all service arms were usually placed under the command of a combined-arms officer, who was responsible for coordinating the joint support of the different service troops integrated in these units.

Severely obstructed vision because of buildings and the fire, smoke, and dust generated in combat, is especially singled out as having presented "serious" problems with troop command and control. The account of street fighting in Budapest, edited by Marshal Malinovsky, notes that it was impossible for commanders at the higher levels to observe the development of operations even along the main axis of effort. Problems with both cable and radio operation precluded reliance on these communication means to exercise control over the combat situation. In Budapest, the solution adopted was actually to place officers of the higher command staffs with the unit formations in the active combat zone. These officers then could observe and control combat actions, correct the development of operations where necessary, organize support among units, and issue the principal instructions in accordance with the overall plan. Visits to troops in combat by the chiefs of the higher staffs and by artillery commanders are said to have been very useful.‡

4. CONCLUSIONS

Based on a research effort limited in time and scope, this paper has presented only some of the essential characteristics of Soviet war-time MOBA during a sustained strategic offensive. As such, its primary

* Chulikov, p. 82.

† Dragunskii, p. 307.

‡ Malinovsky, p. 168.

usefulness is as a historical comparison when evaluating current Soviet doctrinal statements regarding MOBA.

Although the historical literature, like the current doctrinal and training literature, does not present MOBA systematically, it promotes concepts that can reasonably be expected to influence similar Soviet operations in modern contingencies. As particularly salient must be noted the stress on the effectiveness of quick, precise, and coordinated assaults by powerful, independent, maximally mobile units to incapacitate the enemy in built-up areas and permit a takeover by the main Soviet forces. The literature emphasizes both the capability to create these integrated arms units at the combat scene and the specialized training and organizational arrangements required for these latent formations.

The literature examined for this paper dealt with Soviet military operations in a favorable strategic situation that could be exploited for a rapid Soviet advance into foreign territory. As such, its lessons for MOBA might differ from those assimilated in a less favorable strategic situation for the Soviets, such as that before late 1944.

In striving for a rapid advance and quick outcome of the war, Soviet policy was to avoid urban combat as time consuming and costly. Yet, for political reasons they sought to capture the capital cities of enemy countries, sometimes at great cost and protracted effort. Thus, at Budapest they fought for one and one-half months, and political considerations are frankly acknowledged as having outweighed military ones in deciding on the assault. Similarly, the orgy of destruction and massed force in Berlin indicates a dominance of emotional and psychological (rather than purely military) considerations among which revenge clearly played a major role. Nevertheless, in light of the Soviet military endorsement of Budapest, Koenigsberg, and Berlin, in particular, as instructive examples of Soviet urban combat tactics, case studies of these assault operations in more detail (based on Soviet as well as German accounts) may prove useful.

During their advance, instances abound in which the Soviets prudently sought to avoid major civilian casualties and to preserve material values in German as well as other European cities by inviting

city defenders to surrender. Having cut off outside support and poised themselves for attack, the Soviets presented ultimatums for surrender. Once the ultimatum went unheeded, however, massed and decisive force was applied to assure a quick defeat. There were also successful and unsuccessful Soviet efforts to facilitate their military operations in foreign cities by promoting politically favorable changes of governments and organized civil disturbances. If the recent authoritative and comprehensive Soviet accounts of the intertwined military and political developments in their European theater at the time were examined, they might reveal clues to Soviet perceptions regarding wartime bargaining for major cities and provide indications of the support actions by organized local Communists or sympathizers that could influence Soviet MOEA.

Given the constantly reiterated Soviet view that the lessons of World War II are valid for the present and the given correspondence of their wartime tactical principles for urban combat with those expounded in the current literature, it is unlikely that the Soviets would radically alter their style of waging combat in urban areas. The "creative" application of the lessons of the past essentially consists of exploiting the more efficient modern technology while the principles determining their use remain the same.

IV. WEST EUROPEAN ATTITUDES AND PLANNING TODAY

1. INTRODUCTION TO THE SURVEY

In the spring of 1975, the author conducted a number of interviews in Germany, Holland, Belgium, Norway, and Switzerland to assess Western European thinking about, and planning for, wartime combat in urban areas. Persons interviewed included high-ranking European army officers, civilian thinkers about military affairs, and national police (gendarmerie) officers. These interviews were informal private conversations, in which views and information were often offered with the request to avoid attribution. For this reason, the conversation partners will not be identified by name in this document.

Limitations of time and in some instances of available conversation partners made the interviews fall short of a systematic survey. But a fairly high degree of consistency on basic themes allows one to outline such a general pattern of dispositions as the following pages contain. This pattern is also fairly consistent with attitudes and plans regarding city defense which the author described in an earlier Rand Report, *Territorial Defense in NATO and Non-NATO Europe* (R-1184-ISA, February 1973).

Besides describing this pattern of dispositions, this paper discusses rationales, growth points for possible changes, and the question of U.S. encouragement to such changes.

2. THE NEGLECT OF MOBA IN NATO EUROPE

Military operations in built-up, notably urban, areas (MOBA) are not a favored subject among military thinkers and practitioners in NATO Europe.* Their aversion to it reflects a widespread distaste for the concrete issues of how to render an actual attack on Western Europe unpromising and how to defeat it by the means each nation can muster.

*For the discussion in this report, the term "NATO Europe" refers to the Federal Republic of Germany and a few of its neighbors, i.e., The Netherlands, Belgium, and Norway. No interviews were conducted in Denmark, France, and the Mediterranean NATO countries.

Neither national political mandates nor the style in which conventional war is being approached in NATO encourage a more willing and practical attitude--among military men, let alone civilian strategists--toward preparations for conventional war in the urban areas, which form a large and ever-increasing part of the West European terrain. They are inclined to say: "If there must be such war, let it be fought in the open countryside. The other thing we shouldn't, we can't, and we don't prepare for."

A few statements of conversation partners, either paraphrased or verbatim, illustrate and specify this attitude:

1. A Dutch civilian strategist: "In our country little thought is being given to city warfare. The idea is so abhorrent that it does not allow for closer scrutiny. Our cities will be declared 'open cities.'"
2. A top-ranking West German army officer: "We prepare to fight in front of the cities and between the cities. If we had to fight an enemy force in the Ruhr area, the war would already be lost for us."
3. A Belgian gendarmerie commander: "To deny an enemy attacking from the east passage through Belgium--e.g., by way of reliance on city forts such as Liege, Namur, etc.--no longer is a relevant military mission. The Belgian army is expected to fight forward, in Germany. What is left of it in the rear, and the gendarmerie, might cope with one or two parachuted enemy battalions, hardly more."
4. A Dutch general: "The Dutch army is reducing what little strength it can muster in the interior so as to favor the forward-stationed and, at the time of mobilization, forward-moving forces. It has no mission to bar occupation of any Dutch city by an enemy. Its prime "city problem" is how the units that are destined to move into Germany after the outbreak of war shall make their way through refugees streaming out of German cities. Should Dutch forces have to fall back from forward positions in Northern Germany, they expect to be

ordered to give up (rather than form a Northern shoulder around) key German port cities (Hamburg, Bremen). Their task will be to get again in front of the enemy force that is threatening to bypass them."

5. A West German civilian strategist: "Since the survival of the FRG as a modern industrial society would be impaired by intensive conventional fighting, warfighting would only be sensible and acceptable if subjected to strict constraints regarding area, weapon employment and duration of combat, which take account of the limited ability to accept damage. NATO would have to guarantee [sic!] Warsaw Pact adherence to these constraints by means of an effective defense as close to the border as possible, by disposing of convincing counterdeterrence as well as a capability for flexible conventional and nuclear escalation."
6. A West German general: "Fighting in urban terrain takes infantry on foot above all. In highly built-up terrain, armor and vehicles face special handicaps through the protection which buildings and ruins offer to the opposing infantry. My troops sit in vehicles, are trained to fight from vehicles, and their weapons are specially suited to fighting a mobile enemy in open country. I don't have the manpower, the training, the equipment suited for city fighting."
7. A West German gendarmerie (frontier police) commander: "The role of the frontier police force, notably their tactical units, in time of war, is uncertain due to complex and controversial provisions defining their character and missions. Their combat missions are practically limited to dealing with terroristic or civil-war type aggressors. Our responsibility for combat against regular enemy forces is a matter of political controversy. We have no mission to hold cities near frontiers against an organized enemy. It has been proposed to augment the frontier police forces in wartime from a reserve to be formed in peacetime, but this is as yet undecided. Their coordination with territorial army forces is as yet unregulated."

These statements obtained in our investigation illustrate some of the obstacles which will be encountered by efforts to focus attention on MOBA, to make military resources available for such operations, to give such operations a place in strategic and tactical preparations, and to train troops for them. This does not mean that one cannot find military men and civilian thinkers who are ready to acknowledge that the evident capacity and will to conduct MOBA might enhance the deterrence of hostile invasion, or that the actual course of war might force MOBA on NATO forces, or that the inability to conduct MOBA might contribute to their defeat. Men of such views can be found, but as a rule they describe themselves as being in a hopeless minority, "outcasts," "cryers in the wilderness;" and their critics describe them as being "out of touch with the realities." The realities alluded to are political conditions in the country, alliance features, conditions of "modern warfare," technological developments, or (most blandly) constraints of money and military manpower. This state of affairs, on which we shall elaborate below, suggests that endeavors to open the way for a serious consideration of MOBA in NATO Europe must expect to find resistance at every turn of the road and from a variety of opponents. Those who will try must be prepared to look for marginal opportunities to graft some capacity for MOBA onto something else that may be pursued for other purposes.

In at least one European country outside NATO, viz. Switzerland, one can find a notably different situation. Swiss military officers we interviewed did not respond by reciting a list of political, strategic, technical, financial, legal, and of course alliance-organizational obstacles. Their response was to get out a map of Switzerland, to ask "which cities are we talking about?" and then to discuss the ways and means of combat in and about some particular cities which they considered of critical importance in Swiss military planning. One should not conclude from that that MOBA preparations are well-advanced in Switzerland, let alone emphasized, bare of political and other problems, and of model quality for other countries. Nevertheless, the basic attitude of the Swiss was remarkably different; one of how to proceed in the face of constraints instead of why one couldn't or

shouldn't. Interviewed Swiss officers also believed that a capacity for MOEA was an essential part of their deterrence posture, the threat of what they call "a high price of entry" to an invader, or what their actual military disposition today rather warrants calling "a high price of passage."

No single factor can be held accountable for the difference in attitudes compared with NATO countries, but there is one factor that should not be overlooked: The missions of the army of this small, non-allied country are more directly correlated with the defense of the national territory than are those of the neighboring NATO countries. The Swiss army is responsible only for the defense of Swiss territory and air space, and it shares this responsibility with no one. Other Swiss "peculiarities" are often overstressed. In the parts considered most militarily relevant today, i.e., the east-west corridor through Northern Switzerland, Swiss territory is no less urbanized than that of the NATO neighbors. Moreover, terrain features funnel cross-country movement into a number of these cities. We need not discuss here what has induced the Swiss to hold on to "armed neutrality" rather than to copy the unarmed neutrality of their Austrian neighbor, and what has kept them from adopting the French simplification of reducing national armament largely to the display of a nuclear bombardment capacity. Other Europeans are only too ready to explain the Swiss attitude by factors peculiar to that country.

3. THE THICKET OF REASONS WHY YOU SHOULDN'T OR CAN'T

The facts and considerations that are said to militate against acceptance of, and preparation for, MOBA form a thicket that obstructs entry, and if not entry then passage, and if not passage then exploitation. One might wish that European NATO defenses themselves be as tough as the resistance to this subject. In what follows we shall list and briefly discuss the most important arguments of the resistance. In doing so, we shall refer in footnotes to some of the comments reported in Subsection 2 of this essay.

A. This Kind of War Is Not Worth Fighting

One line of argument one encounters is that no warfare is acceptable that would entail destruction of the values to be fought for. Material assets are given a dominant place among such values--outranking by far the intangible values of political independence or a will to defeat the enemy--and these material assets are seen as being embodied in urban industrial, residential, and communal structures. Heavy damage to such structures appears more objectionable than their delivery to an enemy. They would at least "survive" in that eventuality. Combat in cities entails city destruction and must therefore be shunned.*

Another line of argument is that the North Atlantic Treaty is a mutual pledge of intervention but not of self-sacrificial defense. Its purpose might be lost, first simply by any armed attack occurring at all (failure of deterrence); second, by allies not intervening (betrayal); third, by combined defense measures failing (defeat of the alliance). Those who contemplate such malfunctions tend to attribute them mostly to "the alliance," i.e., other alliance partners. These are suspected of being unwilling to sacrifice *their* cities to a nuclear strike, or to intervene with overwhelming or "sufficient" force. One's *own responsibility is seen as limited* by equity in defense burden sharing, if not self-interest. It is as if protecting the national domain had been contracted out to "the alliance." "If the alliance cannot protect us (our material assets), we cannot hope to do so."

These lines of argument are available for opposition to defense with nuclear or nonnuclear weapons, of any national territory and particularly of precious urban territory, by pacifists as well as by those who consider themselves protagonists of a "strong NATO."[†]

* Cf. Statements 1, 2, and 5 above.

[†] For a more detailed analysis of the interwoven concepts of limited defense responsibility, contracting-out of defense responsibility to the alliance, and refusal of defense in depth in West Germany, see Horst Mendershausen, *Territorial Defense in NATO and Non-NATO Europe*, R-1184-ISA, The Rand Corporation, February 1973, pp. 16, 18, and passim.

Recently, Theo Sommer, the respected editor of the German weekly *Die Zeit* and former advisor to then Defense Minister Helmut Schmidt, corroborated these views in the following way: In war, the Federal Republic "cannot exchange space for time or employ massive means of

B. The Enemy Won't, and We Needn't--Or He Will, and It Does Not Matter

All military planning is addressed to certain selected contingencies that appear reasonable in the light of history and politics. In the instance of joint or correlated NATO planning, these contingencies have been restricted and stylized in the course of alliance bargaining. The enemy is seen as attacking (invading) from the East; the defense as having to meet him as far forward as possible. The enemy is seen as driving toward the sea, the North Sea, the English Channel, the Atlantic; the defense as attempting to deny the achievement of these objectives and to force the enemy to desist at some point and "to negotiate."

Will the enemy want to take cities that lie along its presumed way? One line of argument is that he will not. To reach his imputed goals fast, he will bypass cities, and most cities are somehow bypassable.* If one were to allot military resources to the defense of cities, so the argument runs, one would waste these resources. So one need not make cities defensible or train troops in city fighting, with all the trouble this entails by way of serious civil defense measures, debate with political opposition (e.g., along the lines of argument A), and military reorganization.

Another line of argument allows that the enemy will want to take cities. Some may be his political targets after all (consistent or inconsistent with his imputed seaside goals). Others may attract him as bases for his logistics or as chips for the contemplated negotiations. In this instance, it does not pay to resist or deny entry into the city

destruction on its territory without destroying its national substance. . . . Of 60 million people, 17 million live within a belt 200 kilometers deep from the frontier . . . 70 percent of all industrial workers. . . . No defense concept can be of interest to West Germans, which does not offer *a reliable guarantee of protection of this space* [my italics, H.M.]. . . . The expectation to be liberated only after the horrors of [enemy] occupation cannot justify the NATO tie. . . . [A strategy allowing for the possibility of deep enemy penetration] would only induce the Germans to turn their backs on the alliance." Theo Sommer, "Wiederbewaffnung und Verteidigungspolitik," in R. Lowenthal and H. P. Schwartz, eds., *Die Zweite Republik*, Seewald, Stuttgart, 1974, p. 594.

* See also below, pp. 82ff., on the question of the bypassability of cities.

even if it were desirable (argument A) or feasible (arguments C and E, below); for his occupation of the city does not matter much. The final outcome of the war will be decided elsewhere (in the countryside, the enemy's homeland, or wherever). If "the alliance" is strong enough to make the final outcome favorable, one will get back the cities intact. Resistance in front of cities should suffice--and be applied unless the troops are needed elsewhere.

European military planners and defense strategists tend to engage in these speculations about what the enemy will or will not do in an apparent desire to show the futility of preparations for MOBA. They tend to stylize both the attacker's and the defender's strategies in a way that leaves little room for profitable operations in built-up areas. World War II experiences with such operations, and notably Soviet post-war thoughts about them, are usually held to be irrelevant and are therefore disregarded. One will look in vain in the West European military literature for any review of such experiences as appear in Sections II and III of this report and in the Soviet and American literature cited there.

C. Negotiated Strategy (And Limited Resources) Do Not Permit . . .

Negotiated NATO strategy calls for deploying the bulk and cream of the forces as far forward as possible, not in depth. There are never enough combat forces to make this "frontier occupation" look sufficiently forbidding. Whatever combat force can be made available should be given a forward mission, a reserve mission for the forces in the forward zone, or a mobile intervention mission to stop enemy breakthroughs through that zone.*

This argument militates against the *assignment* of certain combat forces to the defense of cities behind the forward battle zone. Although it does not forbid such assignment to cities within that zone, or the use of retreating combat forces for the defense of hinterland cities if the enemy should break through the forward defenses, the argument undercuts whatever schemes may be proposed for the mobilization of

*Cf. Comments 3 and 4.

supplementary forces specially devoted to city defense. If any supplements can be raised, the forward battle zone needs them.

Could not a national strategy fill the gap created by NATO strategy? Theoretically it could, and in practice it does in a marginal way (see below, argument F). But where national, non-NATO-assigned forces exist or are developed, they tend to be depleted for reasons of economy or drawn into the predominant role of NATO-assigned forces under the combined pull of resource limitation and NATO demands for more forward manpower (or turned into service troops for the forward-deployed combat forces). To resist this pull, a defense minister in a NATO country would have to find support in a national defense willingness beyond the requirements of agreed NATO strategy. As a rule he will be content to find at least enough support to satisfy an "equitable portion" of these requirements. "If more is needed," his critics will say, "why don't we get it from NATO?"

D. We Are Supposed To, But Will It Work In a Crunch?

It is not common in NATO countries to place military commanders under strict prohibition from surrendering forces or territory entrusted to them. Only one country has imposed such a prohibition, Norway. It can be found in a Royal Proclamation on Total Defense dated June 10, 1949, which one can see posted in almost every Norwegian military headquarters. It makes surrender an act of treason. Resulting from Norwegian experience in World War II and a unique reaffirmation thereafter of the country's will to resist another invasion to the utmost, this proclamation as its ubiquitous display mark a striking exception to the attitude of limited national responsibility prevalent in European NATO countries. It orders the Home Guard units assigned to cities, and regular forces to the extent they are similarly assigned to specific objects, to stand and fight to the finish.

Norwegian officers interviewed about MOEA point to this historic order with a mixture of affirmation and questioning. The year 1949 is a long time in the past. Might present-day political authority not order avoidance of combat in or about certain localities? Do authorities today provide the manpower and arms with which such combat could

be made possible? The tendency toward rear area depletion for the sake of forward defense (argument C) is at work on NATO's northern flank, too. Only "forward" means *north* there rather than *east*.

E. No Suitable Military Forces Are Available

This argument reflects the strong bent in the NATO military toward armored warfare and infantry motorization. There can be no question that this bent responds to certain outstanding enemy capabilities which are found to be particularly threatening (armored, mechanized attack), and to contemporary war experiences on large open battlefields and other terrain favoring mobility and unobstructed views, say, in the Sinai peninsula. To develop armored and motorized ground forces and ordnance suited to fight with mobile enemy forces in such settings is of course a military necessity, even if central European terrain is less open than the Sinai.

But it has come to be regarded an almost exclusive necessity, one that takes the place of all others. "Modern" infantry forces must be motorized, equipped with weapons that are suited above all for the open battlefield, trained to fight from and around their vehicles. When this priority need becomes the absolute standard of modernity, infantry will no longer be organized, trained, and equipped to fight from house to house, from rooftops, in the sewers, and among the many other features of an embattled city which are unsuited for vehicles. Troops will no longer be prepared for the hardships of such combat. This has become fact in European NATO armies and makes military commanders shy away from contemplating MOBA. They say that they lack the kind of troops for such fighting,^{*} and that the kind of new equipment they are getting often lacks the characteristics that made older equipment usable in city combat. So one hears complaints of insufficient training of infantry in small-unit combat on foot (Germany); elimination of light carbines and machine pistols in favor of a heavier, bigger "assault rifle" (Switzerland); replacement of recoilless rifles (that used to be accompanied by a supply of various shells) with a missile system

^{*} Cf. Comment 6 above.

which cannot fire at an angle below the horizontal and which comes exclusively with anti-armor shells (Berlin Brigade); lack of suitable maps with information on the vertical features of city terrain (ibid.). One can hear commanders wonder whether obsolete but more suitable weapons could still be gotten out of surplus storage for the use of combatants that have to fight in cities after all. Weapon modernization and standardization, they feel, usually neglect adaptability to MOBA. Funds are not available to provide realistic training for MOBA, e.g., to create a realistic terrain for exercises among buildings of diverse heights, underground passageways, etc., so that whatever MOBA training can be afforded must do with a few village houses, barns, and streets, or surreptitious "information walks" of officers in mufti through the streets of a real city. And quite apart from funds, exercises must not expose the troops to too much hardship.

F. Territorial Forces Have No Significant Combat Missions

If main forces are oriented to combat missions other than those relevant to MOBA, could not auxiliary forces be organized, trained, and equipped to fill the gap? Such forces exist in all European NATO countries, more or less at the margin of the military establishments, in the form of "territorials" and home guards. They are part of the military, either an organic part of the army (the German army consists of the "field army" and the "territorial army"),* or a separate service (as in Norway, where the Home Guard is organized as a fourth service branch), and they are in large measure reserve or mobilization (not standing) forces. In the main, they are organized for local missions in and about certain localities, made up of men who live in or near these localities and therefore are relatively familiar with them, and they are not likely to be deployed outside this local context. In these regards, the territorials appear as a valuable resource for opposing enemy encroachments on cities anywhere in the country, near the frontier where a ground assault may reach them, or in the hinterland to

* See Horst Mendershausen, *Territorial Defense in NATO and Non-NATO Europe*, op. cit., pp. 45ff.

which the enemy may get by breaking through or by landing from air to sea.

But this resource is usually very constrained in its development, or if developed, is alienated from the MOBA mission and drawn into other missions. The constraints appear in the form of mission definition and force preparation. The territorials are usually structured and trained to deal with small or weak enemy forces, saboteurs and armed bands, to guard certain objects (power plants, military headquarters and depots, airfields, bridges, etc.) rather than engage in tactical operations in the neighboring urban areas. In Germany, they are neither organized to hold bypassed front-line cities--they are instructed to fall back as the "battlefront" approaches a city--nor to engage strong enemy forces that might attack the particular protected objects and their urbanized neighborhood in the hinterland. The larger tactical units of the German territorial army, the Home Defense Brigades, do (still) have the mission of engaging larger enemy forces that might turn up in the hinterland, but they are no more city-oriented in their combat training than are the brigades of the field army, and if recurrent efforts to assign them to NATO were to succeed, they are more likely than not to be drawn into the forward deployment of the field army.

One might expect it to be otherwise for the relatively large Home Guard force which is assigned to the Norwegian capital of Oslo, 9000 men out of a total Norwegian Home Guard of 90,000. But there one finds that this force is no longer getting any specific training in MOBA. An old building complex that used to be used for training in the past was converted into a storage facility. Recurrent demands for training facilities and city-combat-oriented training have been turned down, partly it seems because of political objections (too much visibility and audibility), partly because of demands of the regular army for resources and its opposition to significant Home Guard combat missions. Here as in other NATO countries, the need to prepare for combat in the countryside--mountainous and heavily wooded as it usually is in Norway--tends to become the exclusive requirement that can be met under resource limitations, and the urban Home Guard's mission range in the city itself to be reduced to guard duty, reconnaissance, and assistance to police

and civil defense. Only the mission to hold airfields and some coastal points for the benefit of landed allied reinforcements appears to be a recognized competing mission for Home Guard and regular army--and worthy of corresponding training--but this is no more than marginal to a MOBA mission.

This discussion has already touched on certain alternative uses (for territorial forces now in existence) to which these forces can be put. They are much in demand for a variety of auxiliary services which go begging because regular forces are directed to use their limited manpower in their principal combat missions. The auxiliary services include notably logistics functions for domestic main forces and allied forces stationed in, or to be deployed into, the country. Understandable as these demands are, giving in to them will often mean that the territorials will be even more alienated from MOBA missions than they already are.

G. Even Militarized Police Cannot, or Should Not, Defend Cities in Wartime

Most of the European NATO countries maintain national or federal police troops or gendarmeries which under existing legislation are to have combatant status in wartime. These police forces are organized variably under the Ministry of the Interior (e.g., in Germany) or the Ministry of Defense (e.g., in Belgium). In wartime, they are due to come under direct army command (Belgian gendarmerie) or at least be at the disposal of the head of government who is then also the supreme authority of all armed forces (German frontier police). These forces are organized in part in tactical units of company and battalion size. The principal tasks assigned to these gendarmerie forces in peace and in war are of course tasks of internal security, maintenance of law and order, notably where these tasks exceed the capabilities of local and regional (in Germany, *Land*) police forces. Their preparations and training concentrate therefore on the protection of central government facilities, and the suppression of armed terrorists and rebellious crowds. The frontier police of the FRG (*Bundesgrenzschutz*) have the special, and originally primary, mission of guarding the eastern frontiers

(toward the GDR and Czechoslovakia). But the military training and organized combat orientation of these forces (and in Germany at least, the deployment of their larger tactical units near the eastern borders) make them a resource that *could* play a role in the wartime defense of cities.

The possibility of exploiting this resource is, however, constrained by reluctance to insert the gendarmerie forces into territorial defense dispositions against an external enemy. This reluctance appears in different forms. In Belgium, it appears to be mainly a matter of quantity. The 2500 men who are organized in the five mobile brigades of the Belgian gendarmerie, including the 1000-man strong "legion mobile" of Brussels, and considered just about strong enough to meet internal security requirements in wartime. This quantitative limitation, rather than a political-military principle, stands in the way of their being employed as a city defense force against an external enemy. Consequently, the Belgian mobile brigades espouse a wartime combat mission, e.g., against enemy airborne attacks on airfields, to the extent that their internal security duties do not tie them down, and they expect to fight beside the Belgian army units that are available in the country in wartime, and to be integrated with them under the army high command at that time. But they are not large enough to compensate for the weakness of the army on the national territory.

In the Federal Republic, the constraint or reluctance is rather a matter of principle. Those units of the *Bundesgrenzschutz* that are mobile, said to comprise 19,500 men, are relatively larger than Belgium's mobile brigades, but the statutory and policy restrictions on their wartime employment against an external enemy are stringent.*

(1) The BGS law[†] precludes putting the frontier police under army command in wartime (para. 64.1 and 42.1). They are due to remain under the Minister of Interior.

*The ratio of the two countries' mobile-unit gendarmerie forces is 8 to 1, that of their total populations, 6 to 1. It is not clear, however, whether the German figure, obtained at BGS headquarters, relates to mobile units of a character comparable to Belgium's. The total size of the BGS, 21,000 men at the end of 1974, is only 1.4 times as large as the total Belgian gendarmerie, about 15,000 men.

[†]*Gesetz über den Bundesgrenzschutz*, August 18, 1972.

(2) The law specifies that frontier police units are to engage in wartime combat with an external enemy only in pursuit of their police function, i.e., when these functions are found to be obstructed by enemy forces, or for their own protection (para. 64.2 and 2 to 9).

(3) Parliamentary explication of the law and of the regulations by the Federal Minister of Interior states that the frontier police forces are to avoid combat with an external wartime enemy by pulling back from the frontiers at an early time and concentrating on their police duties.* The eventuality of their "getting drawn into combat with enemy forces" is recognized only in the frame of enemy interference with these combat-evasive moves, not as a result of a mission to deny enemy advances or occupation. The Minister of Interior declared, "The military defense of the frontiers does not belong to the tasks of the Federal Frontier Police; and the protection of important objects remains largely the responsibility of the armed forces, with the frontier police, at best, able to offer some assistance."[†]

It is of course only reasonable that even police forces with wartime combatant status should be prepared and reserved for internal security missions. But in contrast to local police, which are usually incapable of combat missions against a military force, the national police comprises units that have at least a basic capability of this kind and often rival the combat capability of regular infantry in all respects but equipment. If the regular army were well-prepared to carry out MOBA, one would hardly need to inquire whether militarized police could furnish more than auxiliaries in the defense of cities. But if the army is not so prepared, one wonders whether militarized police could not replace it in that task. One finds, then, that it is either not large enough--and its peacetime strength not sufficiently capable of wartime expansion with suitable reservists--or that some of the very attitudes, notably limited liability thinking, that keep the army from addressing itself to MOBA also keep the militarized police from stepping

* FRG, Minister of Interior, *Grenzschutzdienst und Kombattantenstatus*, Bonn, December 1974, pp. 13-15.

[†] FRG, Minister of Interior, *Mitteilungsblatt für den Bundesgrenzschutz*, Bonn, March 18, 1974, pp. 167-168.

in its place. What the army does not choose to do in this regard, the militarized police is not allowed to do.

H. "Partisans" Not in Demand

Considering the low degree of interest shown in the several countries in preparing the regular military for combat tactics in the cities, and in filling this void with combat-capable police forces, it is hardly surprising that no efforts can be observed to prepare the ground for arming motivated civilians for such tasks. The prevailing assumption appears to be that the West European populations, particularly the city populations, cannot be expected to furnish such volunteers, and that West European social organizations (trade unions, sports organizations) are not going to engage themselves in mobilizing groups of "partisans." "We cannot do that," explained a high-ranking German officer, "our society is different from that of Communist countries, where such paramilitary combat units exist and are training." And he associates armed civilians with terrorists and troublemakers.

Whether "partisans" might play a significant role in the defense of cities against a foreign enemy is an open question under any circumstances. It is easy to imagine settings in which they would not, e.g., where political authorities discourage combat in cities, where regular forces seek to avoid it, or when the country's war effort is collapsing and somebody thinks of throwing hastily armed children and old men against the victorious enemy, as happened in parts of Nazi Germany at the end of World War II. In other settings, partisan fighters might contribute something valuable to combat in cities.

The general disregard of this possibility, however, throws some light on argument E that sufficient forces cannot be spared from other military tasks to engage in city combat. Taken at face value, this consideration might make military planners foster paramilitary forces for city defense, enhance their military value by allotting some instructors and arms to them, and give them tasks besides and in cooperation with the regular forces. Since this is not so, one must conclude that lacking manpower is not the real or primary constraint. There is not enough manpower because there is not enough will to include the

cities in the defense effort. This makes supplementary manpower irrelevant if available, and unavailable if relevant.

I. "Open Cities?"

Although the dispositions described in the preceding pages point to the likelihood that the forces of European NATO countries will shun combat in Western cities and are not well-prepared for combat in any urban environment, our investigation did not find any evidence of official policies "to declare cities open" in time of war. The only person who expressed such an expectation to the author was the Dutch civilian strategist mentioned on p. 54, and the opinion he gave was personal.

The absence of such policy declarations in time of peace does not signify, however, that some authorities may not make them in wartime. In World War II, unilateral declarations were made by French, Belgian, and German (occupation) authorities to declare Paris, Brussels, and Rome "open cities" in the face of advancing enemy forces. In each case the enemy's consent was sought to avoid combat in the cities, and in some instances it was even obtained. Whether combat actions, in the air and on the ground, will in fact be avoided depends of course on the conduct of all forces involved, and the issuing of "open city" declarations, unilateral and perhaps even bilateral, does not necessarily determine the course of events. As long as one of the parties involved will find a military worth in some combat action affecting the city and the people in it, such action is likely to take place.

For those who may try to exempt a city from all combat, it will be necessary to go to great length to make combat there worthless for the enemy. To demilitarize the city meticulously, to remove all friendly forces and their logistics facilities may not suffice. Even if the city is cleared of all defenders, the enemy may find a military advantage in destroying industries or other objects there, terrorizing the inhabitants, or the like. It is uncertain whether anything short of total capitulation can really exempt a particular city from warfare. Certain is it only that the "defender's" endeavor to persuade the enemy not to use military force there will restrict the operational possibilities of his own forces.

Whether the military worth of the enemy's attack on a city may be reduced nowadays by entirely different means, remains an interesting question. The concept of "open cities" dates from a time that did not know long-range warfare by air and space vehicles.* With the present capabilities for such warfare, it has become customary to think of cities in terms of hostages: "If the enemy chose to bombard our cities, we would bombard his cities." In the light of this thinking, capitals and other major cities tend to qualify as "open cities." For the enemy to attack them might be too expensive because it might entail an equivalent loss to him at home.

It is very difficult to judge how this calculus of "mutual assured destruction," which has become familiar to military thinkers in the context of nuclear deterrence between great powers, might affect actual future warfare between such powers, under alliance conditions, and in interaction with localized combat operations of armies, air forces, and navies. We don't even know whether it could be trusted to work for the preservation of great-power capitals from nuclear bombardment, let alone whether it would obviate the need to fight a Soviet army in Kassel. Our main reason for mentioning this line of thought in a discussion of attitudes toward MOBA is that it is leading some political and military thinkers, in Europe and elsewhere, to regard preparation for MOBA as being out of place today. Such preparations are believed to be senseless because a fear of mutual assured destruction in an age of long-range nuclear weapons will (or might) make belligerents treat all (or some) of their cities as "open."

4. MARGINAL GROWTH POINTS

Although a forthright approach to MOBA in NATO Europe appears to meet a thicket of obstacles, one should note some growth points for a

* In the European Middle Ages the term was applied to unfortified localities. Around the turn of the century, it came to be attached to "undefended" cities, i.e., cities harboring no military forces (as in The Hague Convention of 1907), and the 1920s to cities "lacking military objects" (as in The Hague rules of air warfare of 1923). At no time have international resolutions to forbid combat actions in or against "open cities" proved to be binding on belligerents.

development of MOBA capabilities. They are not spectacular and do not permit one to expect a significant reversal of attitudes and practices. But they indicate spots where the military organizations at least permit some efforts in this direction and where some elements in them are trying for improvement.

Perhaps the most interesting growth point which this study encountered consists in the acceptance by the German army high command of the threat of substantial airborne invasion. Serious consideration of this threat was described to us as a relatively recent development, a response--albeit a somewhat tardy one--to the capabilities shown by the Soviet army in the 1968 occupation of Czechoslovakia. Recognition of this threat serves as somewhat of an antidote to the exclusive preoccupation with "forward defense." To be sure, the 50-kilometer-wide belt along the Eastern frontier which is often equated with the forward defense zone harbors the metropolitan area of Hamburg, the densely built-up urban areas of Braunschweig-Salzgitter, Kassel, and other substantial cities besides wide stretches of relatively thinly populated land. But it is somewhat easier to imagine that an invasion on the ground will bypass these cities close to the frontiers than that airborne attacks would stay clear of the great industrial and population centers of the Bremen, Hanover, Rhein-Ruhr, Rhein-Main, Stuttgart, and Munich regions. Therefore, even if greater recognition of this threat does not force MOBA directly into the foreground of military thinking, it sparks some concerns and efforts relevant to it. These can be found in a stirring of German military interest in urban areas as a locale of combat, contemplated changes in German infantry training (with possible side effects on such training in other NATO armies), and in the organization of the German territorial army. These tendencies may find an echo in some other countries, but as of now we are not aware of noteworthy initiatives from their side.

A. German Exploration of Urban Combat Locales

The German army has begun to study urban warfare. The focal point of studies under way appears to be the Combat Infantry School at Hammelburg (in the vicinity of Schweinfurt in Northwestern Bavaria). At this

school, the *Bundeswehr* maintains the only exercise area that permits some troop training in at least a minimal likeness of "urban" environment, the training village of Bonnland. The school appears to be responsible for developing guidelines for combat in built-up areas.

One of the studies that was shown to the author, and that reported preliminary results (as of April 1975) of a study of combat in densely populated areas distinguished several urban terrain patterns and building types and considered the implications of each pattern and type for military mobility, cover, opportunities, and handicaps in defensive and aggressive operations. It distinguished five urban terrain types, (a) small-town settlement as it can be found in the cores of small and middle-sized cities; (b) compact urban settlements with continuous house fronts, houses of medium height, courtyards, garages, etc.; (c) suburban one- or two-family houses with gardens, interspersed with small shops and small industrial enterprises; (d) individual or groups of modern high-rise buildings for residential, administrative, business and industrial use; and (e) areas dotted with relatively low industrial and utility buildings. The study offered some conclusions about the suitability, advantages and disadvantages of tanks, armored personnel carriers, and infantry on foot in these different environments, and found that with some important exceptions, the latter had to carry most of the burden.*

In explaining the study, the school's commander pointed to the increasing paucity of infantry troops in the German army and their increasing dedication to vehicle-borne operations. He also asserted that neglect of preparation for urban warfare in the Third Reich's Wehrmacht had proven costly in the Russian campaign. The study appears to be proceeding and aimed at developing the hitherto very elementary and undiscriminating instructional material of the *Bundeswehr* for combat activities by various troop units : urban areas (see below).

* See also above, pp. 33ff., for Soviet views on the importance of assault detachments and the limitations of armor in city fighting.

B. Training Facilities and Their Utilization

Troop commanders and soldiers may be familiarized with combat in built-up areas through theoretical studies, inspections of real cities, planning exercises on model replicas of urban terrain, and similar devices. Such activities can be found in Germany and other NATO countries. But they fall inevitably short of realistic experiences in the conduct of MOBA. These can be gained only from exercises in full-size urban environments, and such exercises are as yet practically impossible for lack of access to such environments.

The Bundeswehr appears to have a better facility than other NATO armies in its training village of Bonnland. But the layout of this village offers at best a realistic setting for combat in a village, or for combat in parts of towns that resemble a village. The training village has streets of peasant houses, barns, etc. with the village pub as the most substantial building. It has no tall buildings, factories, underground passageways, urban transportation, and utility facilities. Yet a Euro-training conference on MOBA, held in England in October 1974, revealed that only the Belgians had another training village on an island, and a few houses elsewhere, that might rival the Bonnland setup. According to a report by the German representative at the conference (an officer of the Bundeswehr Infantry School), the British offered no more than a room-size (transportable) simulation model for planning games--with such capacities for realism as a possibility to blow up a toy house "with a loud bang, fire, and smoke;" the Danes reported that their infantry school possessed a "simulator for combat observations;" the U.S. Seventh Army reported on a training village in its Berlin sector (see below, p. 79), its occasional use of Bonnland for troops stationed in West Germany, and the availability of Video-Tape sets in the United States which have some bearing on MOBA.* The German officer's report concluded:

The main problem in all countries and for any kind of joint training remains how to get a suitable training facility in

* There was also a report by a Turkish officer, but the German reporter could not understand what he was talking about.

the form of an urbanized densely settled area with industry and modern residential quarters. One wonders whether the large funds needed for such a facility, which would be used jointly by the armies in Europe, could be raised by the NATO partners, . . . whether the big problem of a "training city" could be solved jointly.

While awaiting such a development, the German army command intends to make more use of the existing training village. In 1976, the army high command plans to expose 24 infantry battalions to the village during short visits--up to now only officers and noncommissioned troop leaders have been brought in for exercises--and thereafter they hope to bring all battalions there once a year. With this prospect before it, the Infantry School is pressing for some additional construction at Bonnland--so far apparently with little effect--for MOBA-related operations research, and it is planning some publicity for its efforts. It has a long way to go before it will offer a real center for training in MOBA.

We should note in passing that the Swiss army, its more forthright approach to MOBA notwithstanding, suffers from the same lack of suitable urban training grounds. Swiss officers pointed out that they had been able to meet part of this problem from time to time by utilizing various structures about to be demolished, for training exercises. But in the main they echoed the complaints of NATO officers in this regard.

C. Tactics, Weapons, and Other Aspects

It would be premature and probably wrong to interpret these starts as a significant change in military outlook. At present they are no more than some initiatives added to the traditional dispositions. It remains to be seen whether tactical concepts and training for city warfare will evolve beyond their present primitive state. The German army still has to develop a detailed, well-illustrated handbook of MOBA tactics such as the Swiss army has in its *Lehrschrift Ortskampf* (dated 1974), an excellent piece of educational material.*

*The Swiss army handbook reflects a good deal of the tactical analyses and rules that appeared in the broadly conceived and highly detailed

Considerations of MOBA suitability still have to find their way into the selection of weaponry, to furnish criteria for new weapon development, and even more important perhaps, prevent the discarding of old weapons that are second-best to new ones only in open-country warfare. In this connection, it is important to understand that the suitability of weapons for MOBA often depends on relatively low firepower, great simplicity, unsophisticated maintainability, and ubiquitous supply, features which are easily neglected in the search for (and salesmanship of) the "latest" weapon technology. When asked about the most desirable infantry weapons for MOBA, a German general replied with an enumeration of such traditional items as machine pistols, mines, hand grenades, and other explosive charges, delayed-action munitions, flame throwers, *Panzerfaust*, as well as penetrating artillery ammunition; and a major of the U.S. Berlin Brigade talked about weapons suitable for firing from rooftops, a versatile assortment of ammunition, easily portable guns, close-range weapons. The third dimension, both in the air (helicopter operations) and below ground (in subterranean passageways) also demands attention in tactics and weapon choice. MOBA will have to find much more acceptance before these military requirements will stand up in the competition with weapon systems oriented to other needs and notions.

D. Reorganization Proposals for the German Territorial Army

A proposal for some organizational changes in the German Territorial Army, which has been submitted by the army command to the Defense Minister, envisages some strengthening of the territorial combat forces which are distributed over the territory of the FRG, including a small increase of their peacetime (standing) strength. Although the proposal

book of Major H. von Dac. , *Der totale Widerstand, Kleinkriegsanleitung für Jedermann* (Total Resistance, Instructions for War in the Small for Everybody), Bern, 1966. Significantly, this book does not focus on the pursuit of strategies of attack in which large enemy forces appear as basically inferior and relatively passive opponents, but on warfare in which the enemy achieves large territorial gains, one's own army retreats with considerable losses, and combat by separate units and newly formed groups of fighters continues with substantial participation by the people at large. To our knowledge, there exists no equivalent to this book in any NATO country.

does not appear to be aimed at developing MOBA capabilities specifically, it provides at least for greater combat capacities behind the forward battle zone, which may or may not be made available for city warfare.

According to this proposal, the peacetime-active elements of the six Home Defense Brigades would be increased somewhat. More important, these units would be oriented to a greater extent than heretofore to engagements with regular enemy forces (instead of limiting themselves to "area protection," combat with roving bands and subversive forces). This might make them more useful for deployment in cities; but it appears that the army command is looking chiefly to using them in non-urban terrain, and to emphasize accordingly a greater assimilation of these units to brigades of the Field Army.

In place of the twenty-odd independent infantry battalions of the Territorial Army which hitherto were mobilization units exclusively, the proposal recommends six heavy-infantry regiments with a partial peacetime presence. They are to receive M-48 tanks, which are being replaced by Leopard II tanks in the Field Army.

In place of the 200 to 300 security companies at fixed locations, the proposal puts twelve mobile security regiments plus 150 stationary companies of the old type (both mobilization units as heretofore). While these security units continue to have the mission of protecting specific military objects and civilian objects of military significance against "diversionary forces," the greater mobility and unit strength of the security regiments would permit their being shifted about to meet enemy forces where they appear and to offer more combat strength than the security companies alone could muster. This development in particular could be regarded as a growth point for MOBA capacities. The idea that reservists destined to man these units in wartime should receive some specific training for object defense tasks also opens an opportunity for familiarizing these men with city combat. The objects to be defended are often located in or near cities.

All told, the reorganization proposal seeks to strengthen combat capacity behind the forward battle zone. It is rather ambivalent with regard to MOBA capacities.

5. U.S. ENCOURAGEMENT OF EUROPEAN MOBA CAPACITIES

There can be little doubt that expressions of official U.S. interest in the development of MOBA capacities and correlated adjustments of NATO strategic thinking, military tactics, troop training, and weapon procurement, would introduce a new factor into military thinking in European NATO countries. Up to now, it appears to the author, the big ally has shown rather little interest in this matter. If that were to change, it might well have an effect in some countries, e.g., the FRG. It would at least help to focus attention on this aspect of conventional warfare and stimulate the efforts of those who want to do something about it. In particular, a U.S. initiative might draw attention to the particularly acute problems of coordination between military forces of different nationalities, and between such forces and the civilian authorities and city populations, which combat operations in this environment are likely to present.

It is difficult to predict the effects of more vigorous U.S. initiatives. United States indifference to MOBA probably has not been an important factor in shaping the negative attitudes toward it in European NATO countries. Rather these attitudes have grown from European perceptions of defense responsibilities and political-military priorities, and it would take a great deal more than expressions of an official U.S. interest in MOBA to change these perceptions. They have been formed in decades of living with the complex system of European security that emerged after World War II, under the influence of the U.S. military presence in Europe if not always according to the wishes of the U.S. government. They will probably not change greatly without drastic changes in "system" and "presence," changes which the United States hardly wishes to see happen. To the extent that Switzerland represents the positive, forthright approach to MOBA preparations among the Western European countries, one may wonder whether it takes "armed neutrality" to engender this approach. If so, the United States is hardly interested in helping this condition come about, and even if it did, European countries might not be willing or capable to emulate the Swiss defense posture.

Practically speaking, a U.S. invitation to European NATO countries to prepare for MOBA may well lead the governments of these countries to ask the United States some uncomfortable questions: What changes in military resource allocations do you propose? Given the limits of our responsibilities--as we see them--and therefore of the resources we can make available, what combat power, forward deployment, logistics functions, training activity, procurement, etc., do you propose for us to reduce in order to take better care of MOBA? Are you going to make up for these reductions, and if not, why not? Do you not understand the domestic political constraints under which our defense policies operate? Does your own military establishment pay much attention to MOBA, and if not, why not? And so forth?

This sketch of general circumstances and possible dialogs invites caution. One need not add references to the pressure of other current preoccupations in U.S.-West European relations to conclude that a great U.S. campaign for MOBA in NATO would be unpromising. An expression of interest, an invitation to study, report, and explain may do more good than harm. A high-powered drive may do more harm than good.

But there remains something to be said about the last one of the uncomfortable questions we listed above. Although a more forthright approach to the defense of German, Belgian, Dutch, and other European cities presupposes a real concern of Germans, Belgians, Dutchmen, etc., with denying their cities to an enemy army, a concern which Americans cannot supply, the few in these countries who show such a concern would probably be aided by evidence that the U.S. Army in Europe is taking steps to prepare for MOBA. In this connection, the aforementioned *Combat in Cities Report* of the U.S. Army Infantry School* deserves a comment. In the breadth of the subject matter which that study covers, and in the detailed discussion it devotes to tactics and weapons, it is quite a valuable document. On the other hand, it is such an uncoordinated mixture of analytical work, reproductions from what appears to be a doctrinal booklet, and other expository material, and the presentation is so poor--from very small print to the inclusion of some 80 separately

* See above, Section I, p. 1.

numbered pages of tactical material in Vol. II without any identification in the main table of contents--that the valuable detail is almost lost on the reader. If the U.S. Army Command wanted to inform and instruct the military--and perhaps even the nonmilitary--reader about MOBA, it should present the material in a properly condensed, well-organized, and readable form, on the model of the Swiss *Lehrschrift*.

The present study did not extend to U.S. Army teaching and training of MOBA in the European area generally, but it did include conversations with officers of the Berlin Brigade, which provided some insights. Because of the assignment of the Brigade to an exclusively urban area, it has of course been forced much more than U.S. troops stationed elsewhere to concentrate on MOBA, and it therefore appears to have become a focal point for critical thinking and experimentation within the U.S. Army. The following summarizes some of the comments the author obtained from Berlin Brigade officers.

(1) There is a lack of U.S. doctrinal material which specifically addresses the special problems which could be encountered in conducting military operations in a city. Information on Soviet and GDR doctrine in this regard is also insufficient. In particular, more guidance is sought about relevant combat tactics, munitions effects in a city environment, communications, logistics (resupply on foot, reliance on civilians).

(2) A greater effort is needed to describe and categorize types of construction and road nets in various cities (see above, p. 72 for the beginnings of a German army effort). Brigade officers expressed a strong interest in new city-mapping efforts at the U.S. Army Engineer Topographic Laboratories at Fort Belvoir, Virginia, and recommended that special attention be given to the mapping of underground and rooftop facilities, as well as to the production of aerial photographs.

(3) Training facilities for the simulation of city environments are generally inadequate. The Brigade's modest setup at Parks Range in West Berlin may well be the best facility available in the U.S. Army. It is being expanded and improved, but a good deal more is needed. Visiting companies receive some training there, but the frequency of visits is soon to decline for lack of funds. Tactical exercises in the city, without troops, should be used more to improve the skill of leaders.

(4) Various critical comments were addressed to the suitability for city warfare of new weapons being introduced (Dragon, TOW) and the withdrawal of useful older weapons (106- and 90-mm recoilless rifles, 60-mm mortars) from the inventory. The Brigade is investigating a rifleman's assault weapon based on the rifle-grenade concept.

(5) Officers from the Brigade have reported on their MOBA preparations in U.S. Army and NATO conferences but have so far not been called upon to brief German army organizations.

In sum, the interest and experience of the Berlin Brigade in MOBA could serve as a useful growth point for U.S. Army preparations generally, and the U.S. Army in Europe in particular. If the latter followed this impulse, it might develop capacities and experiences which in turn would stimulate parallel endeavors in some of the European armies. Arousing interest by example may be a productive approach for the United States in this domain, more productive than preaching MOBA to European defense bureaucrats.

V. AN INVENTORY OF CONSIDERATIONS FOR THE FUTURE

1. CONTEXT

In order to focus usefully on the possible occurrence, configuration, and outcome of various conceivable forms of military operations in built-up NATO areas, one might begin by looking at two contextual differences between urban warfare in the past and possible urban warfare in the future. (The most recent war in which urban warfare occurred, Vietnam, is in a twilight zone in this connection.)

A. The Declining Value of "Real Estate"*

It probably can be said that in the past all or most MOBA was conducted because they *had* to be conducted, i.e., the belligerents, both as attackers and defenders, had to fight in the urban areas in the pursuit of their strategic designs. The reason as every military leader from Hannibal to Eisenhower saw it, was that the key to all warfare was the conquest and retention of enemy territory. Generally, the cities in such territory were strategic prizes, related to the actual physical war-making ability and the psychological reserves of the belligerents. Cities had to be taken by those who wanted to win, and successfully defended by those who did not want to be defeated.

In World War II, when for the first time air forces began to play an important role, the strategic value of various types of territory declined. It was then that the use of the disparaging word "real estate" came into being, which was to connote that the conquest of some territories--for example, North Africa with its widely fluctuating fronts--was not too important in strategic terms. The reason why such "real estate" was strategically less important in World War II than it had been in previous wars, was that because of increased mobility, most front lines had become so fluid that territory was much less important than the destruction of enemy forces. And air power had become a new

*The author of the following section realizes that it is quite controversial; some military observers hold that the value of "real estate" has not declined.

dimension that made the conquest of some "real estate" with or without urban areas strategically much less significant than mastery of the skies. Naturally, that was true only up to a point. Once the Axis lost significant territories and urban areas with them, it suffered extensive psychological damage, loss of maneuverability, industrial capacity, and so on.*

Even the value of urban areas as obstacles declined. Air power and the increased speed and maneuverability of armored forces made it possible to destroy them (Rotterdam, Coventry, Dresden) or at least render them largely uninhabitable and paralyzed, even though rapidly improving air defenses were also able to save cities that were attacked from the air only (London). What is of importance here is that, with the advent of air power and, to a lesser degree, armored and motorized forces, the role of cities in warfare had changed. Most cities had become less important in military strategy. Still, they remain of some importance for several reasons. One reason was and presumably remains the psychological reason. The loss of cities is humiliating and frightening, and traditionally the biggest blow of all to a nation is the loss of its capital which, in the past, generally spelled the end of the war. Another is that due to increasing urbanization of many areas in Europe, and for other reasons explored below, fighting in urban areas may once again become more probable. What may further add to that probability are the new ground-to-air capabilities which may make it easier to defend a city in future wars than it was in World War II or in the two decades thereafter.

"Bypassability Quotient." The importance of an urban area as a prize or an obstacle can depend on its location and particularly the network of roads that pass through it. In modern war, an attacking force is almost always faced with the question whether to try taking an urban area, or to bypass it. Depending on their location, some cities are more easily bypassed than others. Paris, for example, lies

* This paper disregards the role of urban areas in a possible nuclear war in which, presumably, cities would lose all value as prizes but assume considerable value as countervalue targets.

in the north central part of France at the center of all major roads, as in the hub of a wheel. To bypass Paris clearly presents greater obstacles than to bypass some other city; but to conquer and hold it also presents a greater gain. Then again, whether a city can be bypassed or not depends to some extent on the mobility of the advancing forces which perhaps will need no roads, or at least not for the initial bypass operations, though perhaps later for logistical support. Thus, when looking at an urban area nowadays with a view to defending it, one should perhaps design what might be called a "bypassability quotient" that would tell us just how hard or easy a city or town would be to bypass for an invading force. Presumably, the strategic aim of NATO will be to render urban areas less bypassable by defending the spaces in between. But if successful, such a strategy might force an invading enemy--and therefore also NATO forces--into the cities which, traditionally, armies would rather avoid.

Bypassability is to some extent a function of the terrain; to some extent a function of the enemy's capabilities to advance over such terrain; and to some extent a function of how difficult NATO will make any bypassing moves with interdicting efforts of its own. Assuming that the enemy will want to advance westward on a broad front: The more effectively he is interdicted in the inter-urban spaces, the more he will be forced to channel his forces into and through the cities and towns. If the inter-urban spaces are not as effectively interdicted, he will presumably prefer to bypass wherever he can. But as it is clearly not in NATO's interest to let him bypass, NATO's interdiction effort in the inter-urban spaces is likely to be strong. It follows that a strong interdiction capability in the inter-urban spaces is likely to lead to a strong enemy effort against the urban areas.

As bypassability depends to a large extent on how big and successful an effort NATO can make to interdict the inter-urban areas, bypassability is a relative value. However, there are certain components to it which are absolutes and can be part of a MOBA study. We can study just how the terrain looks around Hamburg, Muenster, Braunschweig, or Hanover in the north, or around Nurnberg, Regensburg, or Munich in the south, and determine a bypassability quotient on the basis of roads,

mountains, rivers, forests, and so on. The more limited the bypassability, the more likely an effort on the part of the potential enemy to go into and through the urban area and vice versa.

In judging the present situation with regard to bypassability, it must be considered that only a portion of the Soviet forces have true cross-country capabilities. The remainder of their forces are largely wheeled vehicles, and by this time, Soviet formations have as many vehicles as Western formations. Therefore, any rapid advance which requires the rapid delivery of supplies will have to have road nets in order to move those supplies forward. As already pointed out in the case of Paris, if a city is an important road net, which cannot be bypassed easily except by going cross-country, then that city becomes extremely important in the supply of the forward fighting forces which are conducting the blitz.

In a word, one would look westward through the potential enemy's eyes at the whole broad front and try to determine at each point whether one would be more tempted to enter or to bypass. This would lift the MOBA study out of the theoretical realm, just as a look at MOBA capabilities in individual cities would later.

B. Below-Capability War

It was said above that one important difference between past and present (and probable future) war is that the possession of urban areas and other "real estate" has declined in strategic importance, as compared to the destruction of the enemy's forces or control of the air. A second important difference--also affecting urban operations--is the phenomenon of wars being fought far below capability by one or both sides. In our time both sides have operated well below their capabilities, at least their direct, destructive capabilities (Vietnam, Middle East). Before that time, armies often did what they could, including the investing or defending of cities with all the capabilities at their command. There have been exceptions, such as colonial and civil wars; but on the whole, from the siege of Troy to the siege of Stalingrad, both sides made all the efforts and inflicted all the damage they could. In the nuclear era, all nonnuclear war is of course *ipso facto* below

capability war. It was primarily in Vietnam, however, that a form of war began to emerge in which both sides refrained from using their full capabilities. This leads us to the lessons of Tet.

The Tet battles for Saigon, Hue, Ben Tre and other places are interesting battles for the student of MOBA to contemplate. In the first place, these battles--especially the battle of Saigon--illustrated two different types of urban warfare: small-weapon guerrilla warfare as waged by one side, and fighting with heavier weapons as waged by the other. In the case of Saigon, the small-weapon guerrilla activity was used for the offensive, the heavier weapon activity for the defensive. It was no contest, in that the defenders with the heavier weapons could not possibly be defeated as long as there were no domestic or foreign political constraints preventing them from using the necessary force. The American command, in the face of the attacks, made an immediate decision to use as much force as was needed to deny the other side any of the major urban areas they were trying to take. Had the VC forces been even stronger and more determined, the result would have been the same, except that more casualties and damage would have ensued.

This brings us to a vexing factor with regard to urban warfare in the future, if such warfare should indeed take place. In a possible Warsaw-NATO engagement, both sides could obliterate the urban areas that lie in NATO's Eastern belt. But the capability alone will probably not induce them to do this. Both sides will be reluctant to obliterate these urban areas, be it in the process of taking them, denying them to each other, or retaking them from each other. We thus have what might be called a "reluctance quotient." This reluctance quotient can of course rapidly change in the course of military operations; it certainly changed during the Tet offense when U.S. forces inflicted damage they would have been reluctant to inflict only the day before. But the U.S. command did escalate and was presumably ready to escalate further, if necessary. It thereby neutralized the otherwise excellent urban warfare capabilities, albeit of an offensive nature, that the enemy possessed.

Thus, two essential elements of modern war--the declining or at least controversial value of "real estate" and war-fighting on the

highest rung of the reluctance level rather than the capability level--are part of the setting in which future MOBA may take place. Presumably, the aim of overall strategy in a possible NATO/Warsaw Pact conflict will be, on the NATO side, (a) to interdict interurban spaces, as a result of which the enemy may choose cities, and (b) to keep escalation of the overall conflict on a sufficiently low rung to make the resulting urban operations really count.

Just how reluctant either side will be to obliterate urban areas, or under what conditions it will overcome its reluctance, is of course impossible to say. When fighting in urban areas, escalation as a possibility will hang over the heads of NATO commanders in this way: If you fail you fail, but if you succeed you may invite escalation. The analyst looking at urban warfare can only be cognizant of this fact, but cannot integrate it into his considerations. Whereas he can study the bypassability quotient, he cannot study the reluctance quotient in a meaningful way. Fortunately he does not have to include it in a study of urban warfare, as the following will show.

C. Two Additional Contextual Factors

The Creation of Vulnerable Targets for Oneself. One element in the generally successful effort in Vietnam to deny the enemy entry and possession of urban areas was the U.S. capability to hit him there had he entered and tried to stay. To some extent this capability was effective because the enemy lacked a corresponding capability (artillery and air power). In a projected future conflict between the NATO and the Warsaw Pact forces, the enemy would not lack corresponding capabilities. Still, that need not necessarily change the fact that, if he took an urban area and tried to stay there, he could create a new and vulnerable target on his side. This indicates that NATO may want to have a flexible strategy for retaking lost areas.

City Exchanges With Conventional Weapons? The thought occurs that it might be possible to *support* urban defense with counterthreats to the enemy's urban areas. Although the thought of city exchanges, either as a strategy or as a threat, was born when nuclear strategies were first conceived, it suggests itself also as a possible strategic device

in conventional war. This could result in a NATO posture that would say: we will meet you in our urban areas if you insist on entering them, and fight you there. But if you try to neutralize our urban area fighting capabilities by resorting to levels of destruction beyond a certain point, we will hit one of your own urban areas with very heavy weapons.

2. OPERATIONAL CONSIDERATIONS

In the following, an attempt is made to look at some individual aspects of possible future urban warfare.

A. The Terrain

Most German towns and cities, unlike many American towns, are not laid out in parallel fashion, but rather have grown concentrically around a core. There we often find the main railroad station, generally still much in use. With the exception of suburban private homes of one or two stories and business and residential high-rises erected after World War II, most buildings in German urban areas, whether residential or business, tend to be four to five stories high. The major cities, though also circular, generally do have a broad thoroughfare from the central area to the outskirts. Streets range all the way from broad to very narrow. Windows tend to be large, with good visibility all around and one may guess that there are more balconies* than there would be in the United States. Compared again with U.S. residences or business buildings of medium to small size, there are probably fewer elevators and more staircases. Also, in ordinary German buildings there are more nooks and crannies than in comparable modern American buildings. Finally, though this generalization is hazardous, building walls on the whole may be somewhat more solid.

Can one say that this terrain is better for the defender than for the attacker? Presumably, it depends on the levels of force employed. If the force applied is limited, the terrain appears to be at least as good for the defender as for the attacker, and perhaps better.

*For example, these balconies could easily be made secure for snipers.

B. Sniping

In particular, the urban stage as described above is suitable for sniping. Whether or not such sniping is effective will depend on a variety of circumstances and on the effects such sniping is expected to have, presumably in conjunction with other means. Even though some people get killed, sniping has been essentially a psychological weapon. It usually had severe limitations with regard to the level and duration of its effectiveness. When this writer entered Paris in World War II on the day of the Liberation (August 24, 1944), he encountered the snipers left behind by the pro-German political leader, Darnand. These snipers had their greatest effectiveness the first day after U.S. forces entered the city. In fact, they denied the small advance detachment with whom this author was traveling the right bank of the city--but only for one night. Then, for the next week, they made life in the city uncomfortable by killing a number of people, mainly French civilians.

These snipers, shooting from upper stories and rooftops, were hard to locate and dangerous to neutralize. To find one of them usually required a climb of four or five flights of stairs, more or less in the dark. Probably very few were actually neutralized or caught. Still, they soon gave up: As the German armies withdrew and it became apparent that the Allied forces would not be dislodged, the snipers apparently just threw their weapons away. There was, of course, never a formal end to their resistance. They just faded away.

This example, like many others, shows that snipers as conceived in the past are probably most valuable for a short duration. They can deny superior forces access and/or freedom of movement for a certain, rather brief time. Their use therefore tends to make sense only if they are part of a holding action that is accompanied by something else. It can be said that the Darnand snipers, even though they killed a few soldiers and civilians, merely dampened the joy of liberation and briefly disrupted General de Gaulle's triumphant entry. Ultimately they served no purpose whatever. Yet this may only mean that there were not enough of them, or that their ammunition ran out, or that they gave up for whatever reason.

Probably the effect of sniping is a function of its density. For example, if U.S. forces had been fired upon from every house in Paris, it is doubtful that they could have carried out the various missions assigned to them. One might say, therefore, that new forms of "high density" sniping by civilians could have substantial results and lead to a considerable bafflement of the enemy unless they were so unevenly concentrated that a higher level of violence against buildings housing them would decimate them. Theoretically, one might postulate that "high density" sniping would be the activity of at least five times as many snipers as have so far been encountered anywhere in city fighting. Sustained success by snipers might be insured if resupply and escape problems were effective. Also, new weapons, either automatic or semi-automatic, might be especially designed for massive sniping. Presumably such weapons would be entirely different from the clumsy, telescope-equipped infantry piece that was often used for long distance sniping in past wars, or the ordinary rifles used in ordinary sniping.

A definite advantage of sniping is that--as city fighting goes--it is not especially dangerous for the snipers. The sniper can make himself reasonably inaccessible to countersniping when in a building, and can rely on one or several escape routes in case a pursuer climbs the stairs or rides an elevator up to his post. Also, if about to be cornered, he can discard or hide his weapon and disguise his actions. Finally, he enjoys a certain physical distance from the enemy which is reassuring. On the other hand, it is one of the laws of war, albeit not of the Geneva convention, that snipers if caught are generally killed.

On balance, it can be said that a very extensive and imaginative use of snipers--on a far larger scale than has ever been employed in the past either in cities or on the battlefield--might be a very powerful weapon in future urban warfare. The assembling of such an unprecedented sniper force might be facilitated by the fact that sniping does not require the physical attributes of strength or endurance that most other war activities require. Therefore, the recruitment base is very large (including women, of course). What might be explored, then, is whether sniping in urban areas--ordinarily a rather haphazard activity

in the past--could be so conceived, planned, and organized that the state of the art would be raised to an entirely new level.

C. Antitank Fighting

More than anything else, the fight of man vs. tank presents psychological problems, now that the technological problem of producing an antitank weapon that is recoilless, light enough and powerful enough has been solved. It may seem surprising, therefore, that such weapons have often conspicuously failed. Their most glaring failure was observed when in the final stages of the German collapse, the civilians, and even the retreating Wehrmacht soldiers, did not avail themselves of the generous quantities of Panzerfausts and Panzerschrecks (bazookas) that were instead left to rust in town and city squares. In other words, not the weapons but the people failed, i.e., the entire concept. There were presumably four reasons for the nonuse of antitank weapons.

1. People were fearful of using the antitank weapons. They were not conditioned emotionally to use such weapons, nor did they know whether such weapons would be really effective. They had to assume that if they fired a bazooka and it did not bring down the tank and kill the entire crew on the spot, they would die. The antitank weapons had not been demonstrated except perhaps on some faraway proving ground, and people were not familiar with the effects. It was not clear (is not even clear now to this writer) what the personal antitank weapon can really do. If it can merely knock off a tread and bring the tank to a halt, that would not be too comforting to the one who fires the bazooka, as it would mean that trained soldiers with automatic weapons might then go after the attacker. The most difficult thing to do, obviously, is to find or train persons who are ready to pay with their lives for the success of their missions. The ordinary person is not such a type. It is to be suspected, therefore, that even though the technological problem has been solved of "knocking out a tank" with a small weapon that can be carried and fired by one

person, even such a miracle weapon will do very little if city defenders dare not use it, for good reasons.

2. People (Germans) were no longer of the opinion that the war could be won under any circumstances. This being so, they did not want to prolong the war by resisting. The use of antitank weapons would therefore have been counter-productive. Similar situations are quite foreseeable in a possible NATO/WP conflict.
3. Most Germans did not really fear the invader, at least not the invader from the West. They expected him to be humane, and may well have feared that the use of antitank weapons would have made him angry. This is an important element of all urban fighting. Urban fighting can only take place if the enemy is actually already within the walls of one's city, i.e., the chances are considerable that one will have to live at least temporarily under his boot. At that moment the question whether to appease or infuriate him will loom very large.
4. The weapons had to be used without cover or concealment.

The above points to the probability that the personal antitank weapon may simply not be used extensively or at all by town or city people for their defense.

However, this does not mean the same for specially trained soldiers, deployed in the city for the specific purpose of firing bazookas. A soldier who is fully trained with antitank weapons and fully conversant with the nature of their action, can use them to great advantage, and probably will, if given the chance. A civilian, more likely than not, will not. This means that to ship large quantities of antitank weapons to urban areas without the trained specialists in uniform to operate them is not likely to yield good results. The fact that just about anybody can fire a bazooka does not mean that he or she will do so against an advancing tank. The bazooka is *not* a civilian weapon.

The reason for that is not so much the nature of the weapon as the nature of the target, which in the case of a tank is more forbidding. However, in view of the fact that MOBA thinking explores

intermediate solutions, such as the use of a militia with some training, it may be possible to place antitank weapons in the hands of many city inhabitants. The principal purpose of the foregoing passage is to remind the MOBA planner that large numbers of technically effective anti-tank weapons available to German city dwellers toward the end of World War II, when Allied tanks arrived, were never used.

D. Machine Guns and Other Weapons

Presumably--though only if the level of violence remains relatively low--the *machine gun*, especially the heavy machine gun, will be a very effective weapon in urban warfare, as it has always been. Again, the machine gun is a weapon for trained soldiers rather than urban civilians. It is of course the antipersonnel weapon par excellence and likely to remain so under almost all conceivable future conditions. But to use it effectively requires practice and habituation. To be of use in city defense, it would be important to predetermine the places on which it is to be mounted in case of need.

Among other antipersonnel weapons of use in urban fighting, *flame throwers* and *mines* of various kinds come to mind. Both can be very effective, but both require training and habituation for effective use and both, presumably, are somewhat on the escalatory side. A flame thrower using napalm could be made into an effective interdiction weapon, and some form of BTUs, dropped perhaps from roofs and balconies rather than aircraft, could play an important role in urban fighting. The thought of *preconstructed tank traps* in streets is not to be dismissed nor are thoughts of Molotov Cocktails in large numbers and other old and new unconventional weapons.

E. Medical Services

Every person who has seen combat knows how important effective medical services are, both for the actual saving of lives and for the morale of the combatants. Although the traumas incurred in urban warfare are no different from those incurred elsewhere, military medicine might preplan how to deal best with possible casualties in some specific NATO cities. Whereas medical services on the nonurban battlefield

must start from scratch, emergency medical services in urban areas might take advantage of the fact that shelter, running water, beds, and heating are already available in practically every building, so that a preplanned and immediate conversion of a large number of perhaps predetermined buildings into "field hospitals" (perhaps also already equipped with some basic surgical equipment) could take place according to a plan. Such a plan might include the predetermination of where each local physician should report in case of hostilities. As local hospitals tend to be overcrowded even in peacetime, such preparations might yield important results.

F. Organization

Organization of a MOBA capability will require decisions as to what type of person should be recruited and trained for each purpose. Various scenarios may require various mixes of civilian and professional defenders.

As was suggested earlier, various weapon categories might best be assigned to different groups: For example, antitank weapons to professional or at least well-trained soldiers, sniping largely to civilians. Similarly, the communications function could largely be entrusted to civilians who are actual residents of the area and know it well. Presumably, there would have to be skilled and reliable damage assessment people, to make clear throughout the area whether resistance is yielding results or is being paid for too dearly. There will have to be antirumor and antipropaganda networks without which prolonged city resistance is not thinkable. That, too, could be entrusted to resident civilians. There would have to be a corps of experts who know all about water supply, gas and electricity, telephone, and radio. These would naturally be formed from the group of experts now running such systems. Food, of course, would be a critical item, and its distribution, rationing, and control in general would have to be in the hands of preselected capable, respected, and reliable inhabitants. Clearly there is a long list of functions essential to effective MOBA that can be entrusted to resident civilians well in advance.

However, considering the power and capabilities of the prospective

enemy, no city defense can hope to delay, let alone to deny, entry to the enemy unless it is reinforced with regular troops. Aside from anything else, troops will be a psychological necessity, as a city population fighting alone against regular army units of the enemy would feel entirely abandoned. The problem will be to determine what kinds and what sizes of regular or special forces can and should be available for MOBA. (The first task here will be to establish parameters.)

It is conceivable that the number of troops need not be very great, provided the hostilities remain at the relatively low level of escalation which is the prerequisite of successful urban warfare in any event. If there were strongpoints available such as those mentioned above, comparatively small forces would be needed to man them. Tank-fighting troops using bazookas would not be required in exorbitant numbers, if they are well-trained and well-deployed. Presumably, some tanks should also be available for deployment, although most plans will aim at an avoidance of tank battles in urban areas. However, the presence of some friendly tanks would do much to reassure the local population and also to make the intruder more cautious.

G. Defense Against Air Bombardment and Heavy Shelling

In future hostilities in NATO territory, urban areas may be attacked and invaded during bombardment from the air, or without bombardment. In any event, the better an urban area withstands aerial bombardment, the lighter will be the burden on those engaged in intracity fighting. One could therefore say that good air defenses are a cardinal necessity for good city defense on the ground, as the physical and psychological stamina of the defenders will be more quickly exhausted if bombardment from the air is effective and unchecked. Urban defenders must be able to rely on such air defense to protect them against being "creamed" from the air if their fight is effective.

Finally, *counterbatteries* emplaced inside and outside the defended urban area will be required in case the enemy should resort to heavy shelling if frustrated in trying to enter.* This is of course a normal

*The use of poison gas, though a possibility, is omitted from this discussion, as it would lead too far afield. Countergas equipment

function of the artillery and will clearly devolve upon the regular armed forces.

Thus, action would have to be taken in the prehostility period (planning, training, construction of strongpoints, selection of machine gun and other positions). For the defense itself, functions would have to be divided between special forces and regular forces, i.e., trained soldiers (bazookas, machine guns, flame throwers, mines) and civilians (snipers, messengers, experts, evaluators, administrators, communicators). The overall defense with antiaircraft and artillery would need to be planned and coordinated with selected defenders inside the urban areas.

3. THE PSYCHOLOGICAL COMPONENT

As in all forms of warfare, the psychological component will be of great importance. This will be truer for the actual residents of urban areas than for the soldiers deployed to defend or retake them. The inhabitants have big practical and emotional stakes in their city or town. Faced with the Hobsonian choice whether to see its possible destruction during its defense or to see it fall intact to the enemy in the hope of regaining it later, many might vote for the second option. The lessons of history are that many, though by no means all, city dwellers have had their lost cities returned to them after a war. These lessons and many other factors will be part of a very intricate morale and motivation grid that will require attention.

In the following, some of the factors that may either sap or strengthen the will of inhabitants to defend their urban areas in the face of painful losses will be briefly explored. With regard to all these points, some forethought and planning might make a difference for NATO should hostilities actually occur.

A. The Strategic Situation

Though not necessarily particularly knowledgeable about strategic realities and plans, urban dwellers will know approximately the

(masks, decontamination, first aid) would probably have to be considered, however.

importance in overall NATO strategy of the defense and retention of their particular urban area. Clearly, the defense of Stalingrad was significantly strengthened by the conviction of the local people that their urban area really counted in that war. And as their city was indeed a vital point in the entire front line--a fact of which they must have been well aware--and as the Red Army was in the city in strength, they gave their best to defend it.

However, the strategic situation may look different to people looking at it from different vantage points. The strategic value of holding Nuremberg or Braunschweig may be assessed quite otherwise by people on the spot, than by planners in Washington or even Bonn. Such differences in perception are likely to be one--and only one of many--of the problems faced by Allied forces in cooperating with friendly but foreign populations of defended NATO cities.

B. Encirclement

Generally, encirclement will have a negative impact upon defenders, obviously. What is of interest here in connection with encirclement situations in a possible NATO/WP engagement is that what may appear as encirclement may only be the result of a very deep fighting front. Due to bypassing and jump-over capabilities on both sides, one can visualize ground fighting extending through a depth of a hundred or more kilometers. In other words, there may be fighting considerably to the west of a particular NATO urban area, and yet that area may not be truly encircled: If friendly troops are fighting at the same time to the east of the urban area in question, and if this is known to the defenders, they will not feel encircled. This means that the facilities should exist to bring up-to-date battle information from the entire theater to the defenders.

C. Fight or Flight?

Clearly, the first requirement for defending a place is that one must be there; but the presence of urban dwellers is not to be taken for granted, because they have a proclivity to flee approaching enemy troops. When they fled the advancing Allies in the early stages of

their entry into Germany in World War II, these urban dwellers not only failed to stem the enemy, but in addition clogged the roads in the rear, so that the regular German troops had difficulty getting into the cities to give battle there. Actually, the decision whether to remain or leave was perplexing for most German city dwellers during that war. The making of this decision was also the target of an intense psychological warfare battle. For the German urban dweller in the Rhineland, to flee meant to expose himself, in railroads or on highways, to the bombing and strafing of attacking air forces. To stay meant to face some fighting and probable occupation by an unknown foe. At first, Hitler wanted people to stay and "fight to the last man." Later, official propaganda was reversed and Germans were asked to leave. The principal reason for the reversal was that populations overrun by the Allies found life under the occupation more tolerable than life under a hard-pressed and increasingly vicious regime. What ultimately resulted was that the people stayed but did not fight. In the East, where the advancing Red Army was much more feared than the Allies in the West, the net result seems nevertheless to have been the same (some study of what happened there may be in order). In any event, the first prerequisite for the urban population to fight alongside regular units is that they stay, which they will do only if certain situations obtain.

D. The Political Element

It has already been stated that an urban population in order to fight will have to be motivated by some prospect of ultimate success. But it also will have to be motivated by political and other factors. Though it seems highly unlikely that advancing Soviet forces would have much help from sympathizers in the NATO area, this possibility cannot be altogether discounted: When World War II came there were many more sympathizers for Hitler in Norway, France, and elsewhere than one might have expected. Also, there may be people who simply regard occupation as the lesser evil compared to war and destruction. Political and psychological warfare will have to be prepared to deal with adverse political currents.

E. Psychological Warfare Aspects

If hostilities between NATO and WP forces do not immediately escalate to a high lung, and urban populations remain important in the fighting, one must expect that the enemy would wage extensive, well-prepared psychological warfare against inhabitants of urban areas. Threats, promises, misinformation, fifth columns, rumors, exemplary executions, and many other devices are likely to be used even while fighting is still in progress, and especially after an urban area has fallen into enemy hands. (Swiss manuals are very thorough in enumerating for citizens all the tricks an invader is likely to use on them, and similar booklets, equally widely distributed to urban dwellers in NATO territory to the east, may well be indicated.) A counterpropaganda capability will be important and require advance planning.

F. Uprisings and Resistance

Part of urban warfighting will be to have uprisings or prolonged resistance after a possible occupation. "Uprisings" are not the same as "resistance," which is less spectacular but longer lasting. During Hitler's occupation of Europe there were few uprisings, but resistance was everywhere and never ceased. Just how much it accomplished can only be a matter of opinion, but it clearly had some effect and presented the dilemma to the occupier in which he could be lenient and thereby contribute to the spread of resistance, or be harsh and thereby also contribute to its spread. Though confusion and controversy surrounds the issue, the presence of strong resistance forces (FFI) in Paris appears to have helped a great deal in the practically bloodless and destructionless reconquest of that city by the Allies. In any event, "uprising" and "resistance" capabilities will presumably be of value to NATO if they should exist in case of hostilities. Just as did Hitler's fifth column, they will require advance preparation (though the situation is not identical).

G. MOBA in the Nuclear Age

To most people, one should think, to risk or actually offer "the ultimate sacrifice" for their country or city may well make less and

less sense in an age in which the big weapons are likely to decide the issue in any event, whether they are used or not. Still, soldiers and civilians have faced and suffered death in battle in Vietnam and the Middle East. The reason for it in both places may well have been that they felt convinced that escalation would not pass a certain point, so that their individual sacrifices had meaning. The reason why the American troops in embattled Khe San fought so valiantly presumably is that they were convinced that no nuclear weapons would be used against the enemy, so that the burden was clearly on them. Just what is to be concluded from this consideration is not clear. It probably means that intelligent efforts must be made to persuade urban inhabitants that resistance in their cities and towns, by themselves and also by regular and special forces, makes sense precisely because it is meant to prevent escalation beyond a certain point.

H. Inter-Allied Defense Problems

Because of differences in language, communications equipment, military command structure, chain of political authority, cultural background and other factors, allied cooperation such as one may anticipate for NATO city defense is likely to produce not just technical but also major psychological problems. What, for example, might be the effects of U.S. forces being directly involved in the internal defense of West German cities? Perhaps U.S. forces should not so be committed but instead take on other (open country?) responsibilities? Whether MOBA plan¹ is predicated on city defense by national forces alone or by some mix of national and allied forces will have to be based in part on psychological considerations. Even though up to a very limited point the events at Hue may be regarded as a case study of combined defense, its lessons do not appear quite applicable. Instead, a whole set of research topics seems to be waiting here for identification.

4. INTELLIGENCE

Just as it is clearly of importance to know the potential enemy's capabilities, doctrines, plans and preparations for nuclear or other

large-scale warfare, it is important to know to the best possible extent what his capabilities, weapons, doctrines, plans, and preparations are for a possible assault on NATO urban areas. The historical background has been presented in Section II of this report, but its relevance for the present needs to be reassessed from time to time. This means that in the intelligence community some analysts should be made to specialize in that field. Beyond that, preparations should probably be made for an intelligence capability to be left behind in urban areas so that NATO can know what is happening in such areas should they fall under the enemy's control.

5. POSSIBLE OUTCOMES OF URBAN WARFARE

There are essentially six possible outcomes of military operations in built-up areas in a struggle such as that envisaged between NATO and the Warsaw Pact. One is that the enemy is denied the urban area in question. The second is that as a result of effective urban warfare his capture of that area is delayed, and with it perhaps his entire strategic plan. The third is that effective urban operations prevent the enemy from consolidating himself in an area after he has captured it, thus making the area a liability rather than an asset for him. The fourth is a possible recapture of the area with the aid of forces within.

(These four possible outcomes all have spectra of sub-outcomes, namely whether the various results attained demand light, medium, or heavy sacrifices of people or buildings.)

There are two more possible outcomes at the extreme ends of the scale. One is that urban warfare is so well-organized, and known to the enemy to be so well-organized, that he *desists* from even challenging it. The other is that urban warfare, at any time during the enemy's advance, i.e., upon entry or afterwards, collapses and comes to an end.

POSSIBLE OUTCOMES OF MOBA

	Enemy Deterred ^a	Enemy Denied Entry	Enemy Delayed	Prevented	Recapture	Collapse
Damage	None	Small	Small	?	Small	Small
		Medium	Medium		Medium	Medium
		Heavy	Heavy		Heavy	Heavy

^aThe category "Enemy Deterred" might again be subdivided into "Enemy Deterred from Waging War Altogether," and "Enemy Deterred from Entering Urban Area(s), Pursues War by Other Means."

6. CONCLUSIONS

Like every other aspect of warfare in the era of nuclear weapons, urban operations--whether they occur at all, what forms or outcomes they may take--will depend on the larger picture which will consist not only of other military actions but on an almost unimaginably intricate web of open and implied threats and counterthreats of *n* ways of escalation. This does not mean, however, that urban warfare cannot be studied as a discrete problem in itself, as long as its involvement in the larger picture is always kept in mind. Regardless of what the configuration of future possible hostilities may be, there are such things as good or bad *preparations* for armed resistance in NATO's urban areas against armed intrusion. The matter *can* be conceptualized, and plans and preparations *can* be made that will either make urban operations more successful if they should occur or make them--and perhaps the entire war with them--less likely if the capability of conducting such operations effectively is known to the enemy beforehand. This is the first conclusion.

The second conclusion is that the study of and preparation for urban warfare in the eastern NATO territories appear to be urgent necessities, not because NATO prefers to fight in the cities and towns (it is far from showing such an intent), but because two of NATO's principal strategic intentions--to interdict bypassing and to avoid

escalation--are likely to channel the potential enemy's advance into the urban areas, and thus make MOBA inevitable, should hostilities occur.